JVC Instructions

3-CCD COLOUR VICEO CAMERA WITH S-VHS-C RECORDER

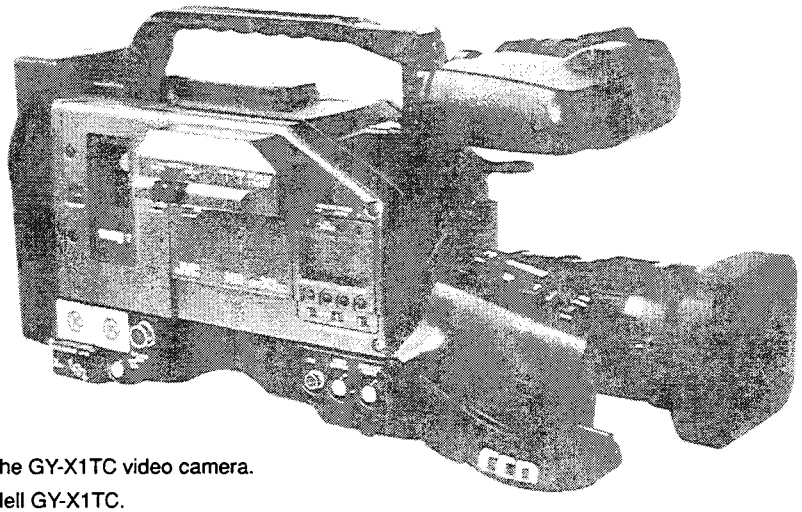
GY-X1TC

(With built-in time code generator)

GY-X1

(Standard type)

BEDIENUNGSANLEITUNG: 3-CCD-FARB-VIDEOKAMERA MIT INTEGRIERTEM S-VHS-C-REKORDER
MANUEL D'INSTURCTIONS: CAMERA VIDEO COULEUR A 3CCD AVEC MAGNETOSCOPE S-VHS-C



The photograph shows the GY-X1TC video camera.
Die Abbildung zeigt Modell GY-X1TC.
La photo montre la caméra vidéo GY-X1TC.

The instructions are given in three languages:
English from page 1 to 52
German from page 53 to 104
French from page 105 to 156

Bedienungsanleitung in drei Sprachen:
English: Seite 1 bis 52
Deutsch: Seite 53 bis 104
Franzosisch: Seite 105 bis 156

Les explications techniques sont données en trois langues:
Anglais, pages 1 á 52
Allemand, pages 53 á 104
Français, pages 105 á 156

WARNINGS

Due to design modifications, data given in this instruction book are subject to possible change without prior notice.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

LITHIUM BATTERY REPLACEMENT MARKING
REPLACE BATTERY WITH JVC (OR PANASONIC) CR 2025. USE OF ANOTHER BATTERY MAY PRESENT A RISK OF FIRE OR EXPLOSION.

LITHIUM BATTERY DISPOSAL MARKING
WARNING – THE BATTERY USED IN THIS DEVICE MAY PRESENT A FIRE OR CHEMICAL BURN HAZARD IF MISUSED. DO NOT RECHARGE, DISASSEMBLE, HEAT ABOVE 100°C (212°F) OR INCINERATE.
DISPOSE OF USED BATTERY PROMPTLY.
KEEP AWAY FROM CHILDREN.
DO NOT DISASSEMBLE AND DO NOT DISPOSE OF IN FIRE.

POWER SYSTEM
This colour video camera should be used with 12 V DC only.

CAUTION:
To prevent electric shocks and fire hazards, do NOT use other than specified power source.

Thank you for purchasing the JVC GY-X1TC/GY-X1 Colour Video Camera.

To gain maximum benefit from the camera, it is suggested that you study this booklet carefully. After reading, retain it for future reference.

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FEATURES

- A 3-CCD camera delivering professional-quality pictures, with a built-in S-VHS recorder. Even with its viewfinder and lens it weighs approx. 12 lbs (5.5 kg) (GY-X1), the lightest in its category.
- Three high-sensitivity 1/2-inch CCD elements, each with 390,000 pixels. The pictures have professional quality with an S/N ratio of 56 dB and a horizontal resolution of 600 lines, while smear has been reduced to a minimum.
- JVC's new "Advanced Memory System" uses an IC card to set data, for instantaneous response in a variety of conditions.
- The built-in S-VHS recorder is equipped with color playback circuitry and has composite and Y/C (Y/C 443) separate output terminals.
- S-VHS recording circuitry is used which extends the carrier frequency up to 7 MHz, delivering over 400 TV lines of recorded information.
- In addition to the linear audio track, this camera records two channels of Hi-Fi FM audio for extremly high-fidelity sound.
- A full-sized head drum with two rotary erase heads assures the highest possible performance and distortion-free edits.
- Rugged integrated construction with newly-designed diecast aluminum body and a low center of gravity withstand violent motion.
- Quick record mode, with video/audio ALC and full-time auto white circuit activated with a single touch of a button.
- Intelligent auto iris system detects the most appropriate weighting ratio in any condition.
- Internal focusing system permits the use of a rectangular hood. As the hood does not rotate, ghosts and flare are much less than with a round hood. (HZ-714)
- Newly-developed viewfinder VF-P115 with a horizontal resolution of 500 lines.
- Dual-memory auto white system, with the added convenience of being interlocked with the filter setting.
- Built-in compact speaker for a voice-alarm.
- ALC circuit maintains the F-stop memorized in advanced memory system in order to keep depth of field.
- The audio level is indicated in the viewfinder.
- Title generator for titles of up to 16 alphanumeric and special characters.
- A compact high-performance microphone is incorporated, with additional XLR (for 2 channels) and 6-pin mike connectors.
- Battery holder for standard NB-G1 battery.
- Retake function with edit searching for easy checking of recordings at normal speed.
- Electronic shutter with speeds of 1/120, 1/250, 1/500 and 1/1000 second.

Features provided only on GY-X1TC

- Internal VITC generator records time code in the vertical interval. This makes possible frame accurate editing in post production.
- A built-in reference signal qenerator adds a signal with which the auto equalizer in the BR-S611/BR-S811 can automatically correct the playback frequency characteristics.
- Built-in genlock circuit for system synchronization.
- For convenience, a local remote control unit (optional RM-LP80) can be connected.
- With its dual output system, the camera output can be connected directly to an external recorder.

PRECAUTIONS

Safety Precautions

- Use only the optional NB-G1 (with BH-P10) Battery Pack or the optional AA-P250 AC Power Adapter.
- Do not modify the unit or operate it without cover panel to prevent danger.
- When there is any abnormality (abnormal noise, smell, smoke, etc.) with the unit, immediately turn the power off and contact your nearest JVC-authorized service agent.
- Do not damage or fray the power cord. Otherwise, this will cause leakage or electrical shock.
- If the camera is not going to be used for an extended period of time, leave the power cord disconnected for reasons of safety.
- If there is a danger of being struck by lightning during outdoor shooting, evacuate to a safe place immediately.

Handling Precautions

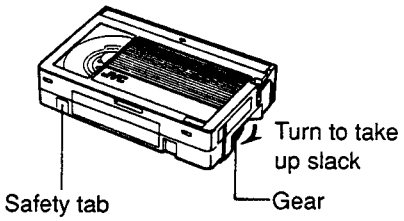
- Supply voltage
  Make sure that the power is between 11.5 V and 15 V DC. If the power voltage is too low, abnormal colour and increased noise could occur. Do not exceed 15 V DC in any case, or the unit could be damaged.
- Ambient temperature
  Do not operate the camera outside a 0°C to +40°C (32°F to 104°F) temperature range. Refer to the corresponding item in the "Specifications" on page 52.
- Where there are strong electromagnetic waves or magnetism, for example near a radio or TV transmitter, transformer, motor, etc., the picture may contain noise and the colours may be incorrect.
- When a wireless microphone or wireless microphone tuner is used near the camera, the tuner could pick up noise. In such a case, select another channel.
- Cleaning the body: Wipe body with a dry, soft cloth (such as cheesecloth). When it is extremely dirty, soak the cloth in a solution of neutral detergent, wring it out and then wipe.
  To prevent deformation of the body, etc. and to avoid operation hazards, do not allow volatile liquids such as benzine and thinner to touch the body, and do not wipe it with a cloth soaked in such a liquid.
  If the equipment is soiled with water, oil, solvent, etc., wipe over with soft cloth or cotton first, then clean with gauze, etc. soaked in denatured alcohol.
- Influence of vibrations
  When tapes are played back in a place subject to excessive vibrations, colour pictures may not be obtained.

Moisture condensation prevents use of the unit.

- You have observed that pouring a cold liquid into a glass will cause drops of water to form on the glass's outer surface. This same phenomenon occurs on the head drum of a video recorder when the recorder is moved from a cool place to a warm place, after heating in a cold room, under extremely humid conditions or in a place directly subjected to the cool air from an air conditioner.
- Moisture on the head drum can cause severe damage to the video tape, and can lead to internal damage to the recorder itself.
- If moisture condensation occurs on the head drum, a condensation warning appears in the recorder LCD and the unit enters the Stop mode, unable to function. In such a case, wait for a few hours until the indicator disappears.

Video Cassette Handling

- The GY-X1TC/GY-X1 employs only cassettes carrying the S-VHS C and the VHS C marks.
- Recording onto prerecorded tapes automatically erases the previously recorded video and audio signals.
- An inverted cassette cannot be inserted.
- Do not load and unload the cassette repeatedly without allowing the tape to run at all. This will slacken the tape and thereby damage it.
- Make certain before loading the cassette that the tape is not slackened. If there is any slack, turn the gear on the cassette in the direction of the arrow to take up slack.
- The cassette is equipped with a safety tab to prevent accidental erasure. When the tab is removed, recording is impossible. If you wish to record on a cassette whose tab has been removed, use adhesive tape to reseal the slot.
- To avoid excessive exposure to dust and fingerprints, do not open the front tape cover.
- It may not be possible to record on the first 5-second section of a new tape due to winding margin.



Storage of cassettes

- Avoid exposing the cassettes to direct sunlight, keep them away from heaters.
- Avoid storing the cassettes in humid or dusty places.
- Do not drop the cassettes. Do not expose them to violent vibrations or shocks.
- Do not expose the cassettes to strong magnetic fields (near a motor, transformer or magnet).
- Place the cassettes in cassette cases and position them vertically.

Usable cassettes

It is recommended that you use the SE-C30 cassettes.

Cassette adapter

When using compact video cassettes bearing the S-VHS C mark with full-size S-VHS equipment, use a cassette adapter compatible with S-VHS.

To play back recordings made by this unit on JVC's professional video equipment (BR-S611, BR-S811, BR-S610, BR-S810, BR-8600, BR-6600 and BR-7000), use the SA-CP series cassette adapter for professional use.

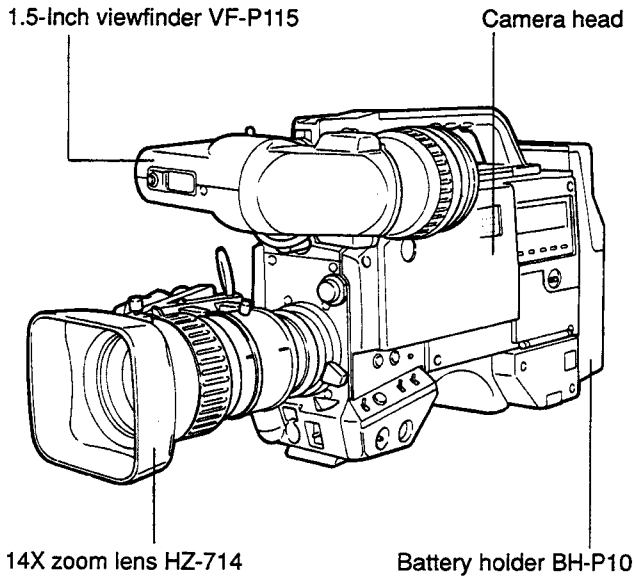
- Do not leave the unit in the Record-Pause mode for too long to avoid discharging the battery and to protect the tape.
- When using this unit as a camera alone, remove the cassette to protect the tape.

SYSTEM CONFIGURATION

The standard configuration of the GY-X1TC/GY-X1 is as shown below. Suffixes such as L14 and CH denote system configurations and do not affect the performance and operation of the system.

- Instructions in this manual generally refer to the standard configuration. When using the system in a different configuration, also refer to the instruction manuals of units to which it is to be combined.
- For information on systems using units other than standard units, consult the dealer from whom you bought the system or an authorized JVC dealer.

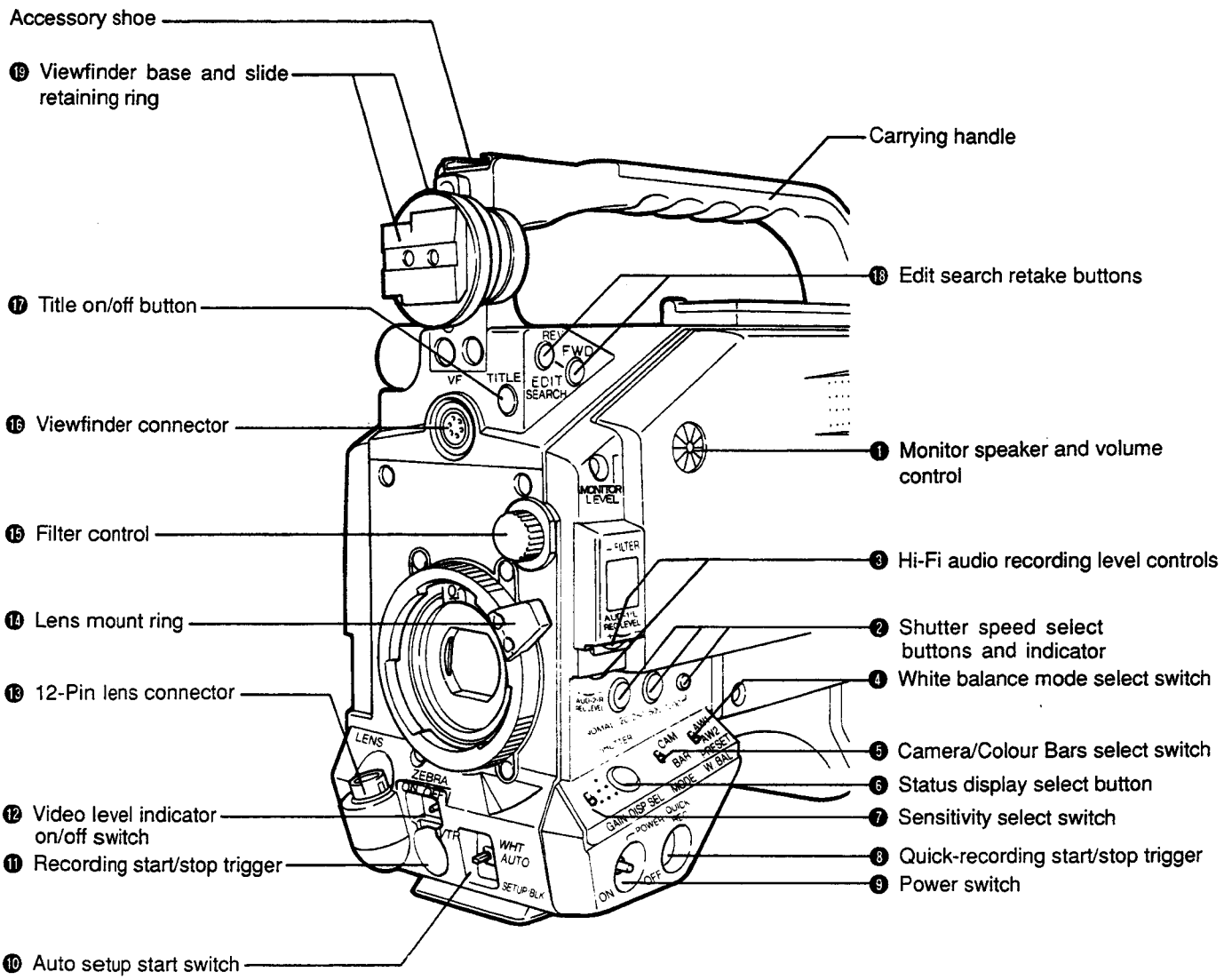
Standard Configuration



- **Some units other than the camera head may be optional depending on the configuration.**

CONTROLS, INDICATORS, AND CONNECTORS

Camera head front right-hand section



❶ **[MONITOR LEVEL] Monitor speaker and volume control**

This volume control is effective for:

- Microphone input
- VTR playback audio
- Audible warning messages

The audible warning messages can be switched off by using the memory function.

❷ **[SHUTTER] Shutter speed select buttons and indicator**

NORMAL button:

Engages the normal 1/50-seccond speed. Normally use this speed. (The indicator is off.)

120 250 500 1000 button:

Each time this button is pressed, the shutter speed changes to 1/120, 1/250, 1/500, 1/1000, then back to 1/120 second.

(The indicator lights.)

Effective when shooting fast-moving objects. To return to 1/50 second, press the NORMAL button.

1/120 ⟶ 1/250 ⟶ 1/500 ⟶ 1/1000

❸ **[AUD-1/L REC LEVEL, AUD-2/R REC LEVEL] Hi-Fi audio recording level controls**
Manually adjust the recording level of the audio signal to be recorded on the tape's Hi-Fi audio track. AUD-1/L for channel 1 (left channel), and AUD-2/R for channel 2 (right channel). (The recording level of the audio signal to be recorded on the normal audio track is controlled automatically.)

❹ **[W. BAL] White balance mode select switch**
AUTO 1, AUTO 2:
White balance is set to the status automatically adjusted with switch ⓾.
PRESET:
White balance is set to the preset standard (corresponding to a color temperature of 3200K with filter control ⓯ set to 1).
Independent white balance settings can be stored in the AUTO 1 and AUTO 2 positions. Filter-linked settings can also be used. (See page 32.)
It is also possible to use the full-time auto white balance mode in the AUTO 2 position.

❺ **[MODE] Camera/Colour Bars select switch**
Selects the recording or output signal.
CAM: Camera signal
BARS: Color bars signal

❻ **[DISP. SEL] Status display select button**
The status display function shows the unit's operation status on the viewfinder screen. Three display modes are available and can be switched by pressing this button: Mode 0, Mode 1, then Mode 2.

❼ **[GAIN] Sensitivity select switch**
Selects the camera's sensitivity. Available sensitivities in the three switch positions can be varied in the following five combinations by using the memory function.

Switch position	Sensitivity				
•	0 dB	0 dB	0 dB	6 dB	9 dB
• •	9 dB	6 dB	6 dB	0 dB	0 dB
• • •	18 dB	12 dB	*ALC	12 dB	18 dB

Preset prior to shipment
* ALC: Automatic Level Control mode

❽ **[QUICK REC] Quick-recording start/stop trigger**
Use this button as a quick-recording start/stop trigger. Recording starts immediately when this button is pressed, with video/audio ALC and auto-iris forcibly engaged. White balance will also be automatically adjusted accordingly. Pressing this button again or button ⓫ releases the quick-recording mode and engages the Record-Pause mode. Use this function only in an emergency.

Allow 10 seconds or more after the power has been switched on, otherwise this function will not operate correctly.

❾ **[POWER] Power switch**

❿ **[AUTO] Auto setup start switch**
Push the switch toward "WHT" or "SETUP/BLK" to initiate the auto setup procedure. The switch need not be pushed continuously.
WHT: For automatic adjustment of white balance only.
SETUP/BLK: For successive adjustment of black balance, white balance and black balance again.
Adjustment of black balance only is also possible in the SETUP/BLK position.

⓫ **[VTR] Recording start/stop trigger**
Use this button as a normal shooting start/stop trigger. Recording will start about 2 seconds after the button has been pressed. Pressing it again engages the Record-Pause mode.

While in the Record-Pause mode, the viewfinder indication changes as follows:
No indication (about one second)→Quick Review*→No indication (about one second)→Camera signal

⓬ **[ZEBRA] Video level indicator on/off switch**
Set this to ON to obtain the video level indication on the viewfinder screen.

⓭ **[LENS] 12-Pin lens connector**
For use with a lens having a 12-pin connector.

Pin No.	Function	Pin No.	Function
1	RET switch	7	IRIS position
2	VTR start	8	IRIS AUTO/MANU
3	GND	9	—
4	LENS AUTO	10	—
5	IRIS control	11	—
6	12 V DC	12	Y signal

⓮ **Lens mount ring**
For retaining the lens.

⓯ **FILTER] Filter control**
Selects the filter setting for color conversion and ND.
1. (3200K): For shooting indoors, or outdoors when illumination is insufficient.
2. (5600K): For shooting outdoors.
3. (5600K and ND filter): For shooting outdoors on sunny days.

⓰ **[VF] Viewfinder connector**
Connect the viewfinder cable.

⓱ **[TITLE] Title on/off button**
Displays the title preset using the memory function while this button is being pressed. No display is available when there is no preset title. While the title is on the viewfinder screen, other display functions such as the displays available with button ❻, warning display, and memory function display cannot be used. Use the title display only when it is necessary.

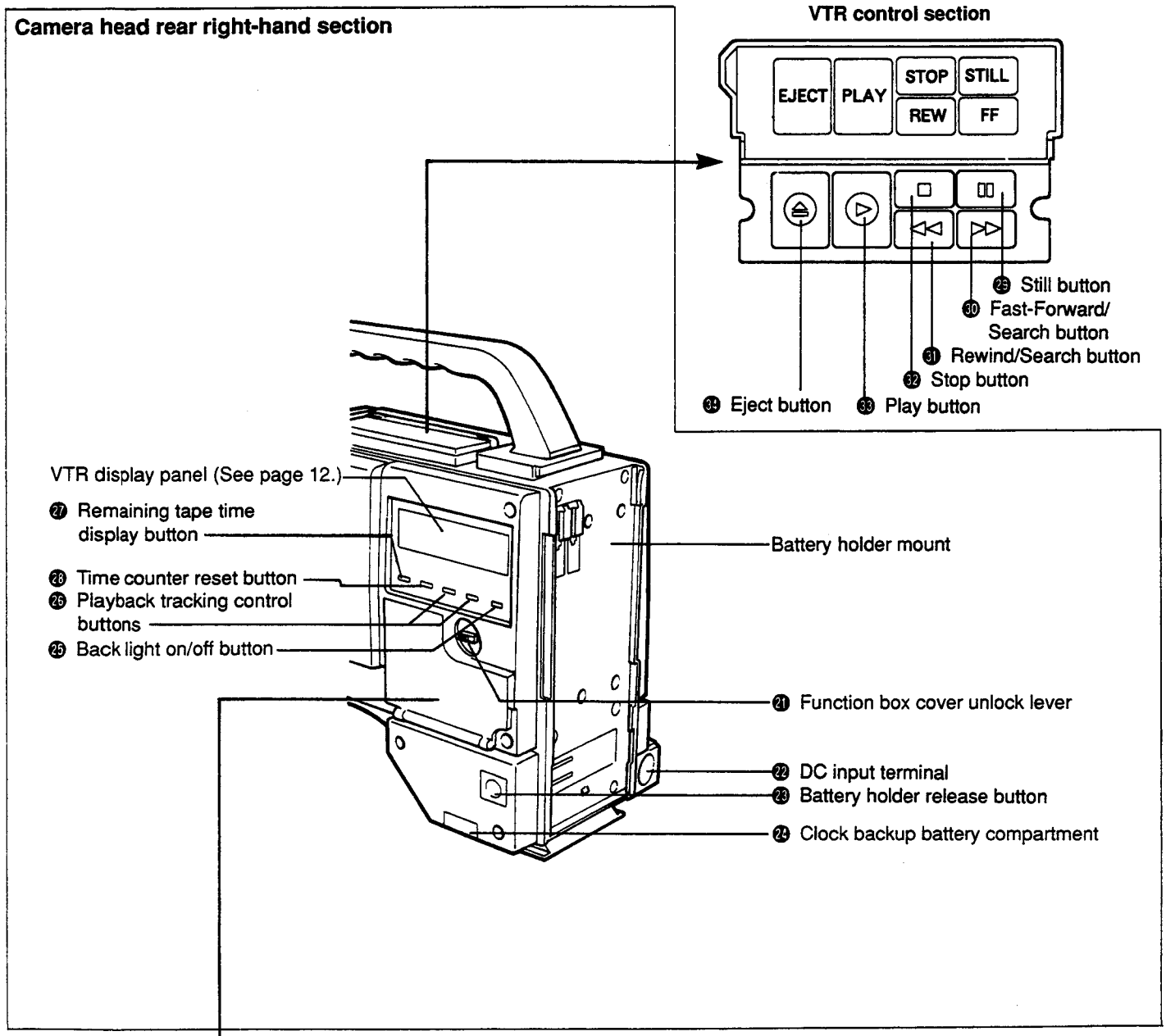
⓲ **[EDIT SEARCH] Edit search retake buttons**
Allows forward or reverse search while in the Record-Pause mode. Use this function to determine the start point of a retake. The search picture can be viewed on the viewfinder screen.
REV: For reverse search
FWD: For forward search

⓳ **Viewfinder base and slide retaining ring**
Attach the VF-P115 viewfinder to this base and secure it with the slide retaining ring.

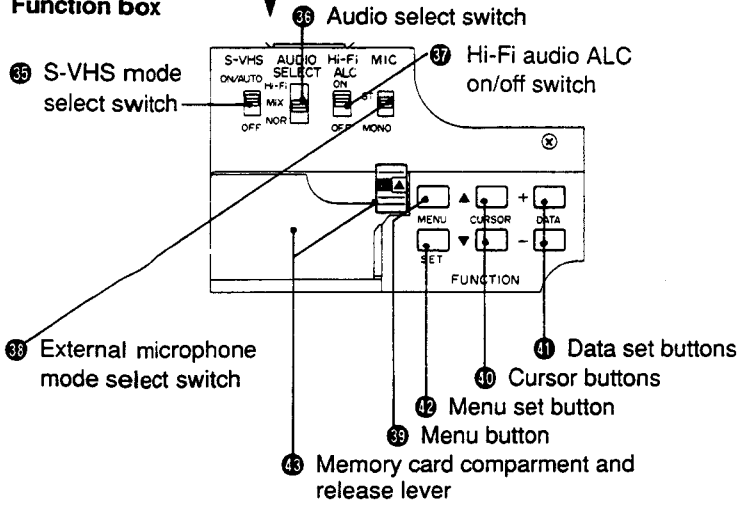
Terminology

* **Quick Review**
A function which plays back the last two seconds of recording automatically for on-the-spot confirmation of the recording. After two seconds of playback, the tape stops automatically in the Record-Pause mode.

Camera head rear right-hand section



Function box



㉑ Function box cover unlock lever
Push the lever to the rear (in the direction of the arrow on the lever) to open the function box cover.

㉒ [DC IN] DC input terminal
Apply 12 V DC from an AC power adapter.

Pin No.	Function
1	GND
2	–
3	–
4	12 V DC

㉓ **[BATT RELEASE] Battery holder release button**
Press to remove the BH-P10 battery holder.

㉔ **[CLOCK BATT] Clock backup battery compartment**
When the clock backup battery is discharged, the built-in clock and hour meter data will be cancelled when the power is switched off.

㉕ **[LIGHT] Back light on/off button**
Press to check the VTR display panel indications in the dark. Pressing this button alternates between on and off. To avoid discharging the battery, press to on only when necessary.

㉖ **[TRACKING +, –] Playback tracking control buttons**
Adjust the tracking while referring to the playback tracking display ㊼ in the VTR display panel. (See page 12.)

㉗ **[REMAIN] Remaining tape time display button**
Press this button while recording to check the remaining tape time, which is displayed on the time counter ㉘ in the VTR display panel (see page 12). Available indications are 30, 25, 20, 15, 10, 5, 4, 3, 2, 1, and 0 minutes. Press the button again to return to the ordinary elapsed time mode.

㉘ **[RESET] Time counter reset button**
Press to reset the time counter ㉘ (see page 12) to "00:00". Counter resetting takes place even while the remaining tape time is displayed.

VTR control section

㉙ **[STILL] Still button**
Press while in the Play mode to stop the tape temporarily; a still picture (with noise) will be obtained. This button has no effect while in the Record mode.

㉚ **[FF] Fast-Forward/Search button**
Press to fast-forward the tape. When pressed while in the Play mode, forward search at 7 times normal speed is engaged.

㉛ **[REW] Rewind/Search button**
Press to rewind the tape. When pressed while in the Play mode, reverse search at 7 times normal speed is engaged.

㉜ **[STOP] Stop button**
Press to cancel the Play, FF and REW modes. The tape will stop and the Record-Pause mode will be engaged.

㉝ **[PLAY] Play button**
Press to play back the tape.

㉞ **[EJECT] Eject button**
Press to eject the cassette. It will take about 7 seconds for the tape to be unloaded and the cassette ejected. Press this button only when the unit is in the Record-Pause mode.

The cassette cannot be ejected if the power supply is insufficient (too low or no battery power). In such a case, replace the battery pack with a charged one.

Notes for VTR operation

- Still pictures may have some noise or vibrate vertically. This is not due to any defect of the unit.
- During search, pictures may contain some noise, vibrate vertically, or become monochrome. This is not due to any defect of the unit.
- With a low-capacity power unit, or a power unit whose protective circuit characteristics are not sufficient (such as the AA-C50), the VTR may stop because of a shortage of power. To avoid this, use specified power units.
- No audio is available during search.
- When recording in the VHS mode on a tape previously recorded in the S-VHS mode, it is not possible to search or edit S-VHS recordings.
- For 7 seconds after the power has been turned on, cassette removal may not be possible even if the EJECT button is pressed.

Function box

㉟ **[S-VHS] S-VHS mode select switch**
ON/AUTO:
Automatically detects the mode of the loaded tape (S-VHS or VHS) and engages the corresponding recording mode.
OFF:
Selects the VHS mode regardless of whether an S-VHS or VHS cassette has been loaded.

㊱ **[AUDIO SELECT] Audio select switch**
Selects the audio track to be monitored, output, or displayed.
HiFi: Hi-Fi audio track
MIX: A mixture of the two
NOR: Normal audio track
Monitoring of playback audio is possible via the built-in speaker ❶ or earphone jack ㊶. Output signals are available from the audio output connectors ㊹ ㊺. The recording and playback level can be checked on the Mode-0 status display and the recording/playback audio level indicators ㊾.

㊲ **[HiFi REC] Hi-Fi audio ALC on/off switch**
Switches on or off the Hi-Fi audio ALC (Auto Level Control) circuit.
ON: ALC on
OFF: ALC off

㊳ **[MIC] External microphone mode select switch**
Selects the Hi-Fi recording mode of the audio signals coming from connectors ㊾㊿.
ST: To record independent audio signals on the right and left channels.
MONO: To recording the same audio signal on both channels.

㊴ **[MENU] Menu button**
Press to call up the memory function menu on the viewfinder screen. Press it again to cancel the menu. Also use this button to return to the master menu from one of the sub-menus.

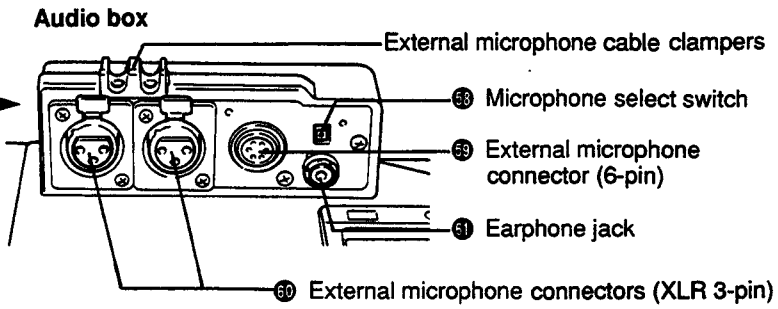
㊵ **[CURSOR ▲, ▼] Cursor buttons**
Press to move the cursor when selecting memory function items and parameters.
▲: To move up or to the right.
▼: To move down or to the left.

㊶ **[DATA +, –] Data set buttons**
Press to alter or set memory function parameter data.
+: To increase data in single increments.
–: To decrease data in single increments.

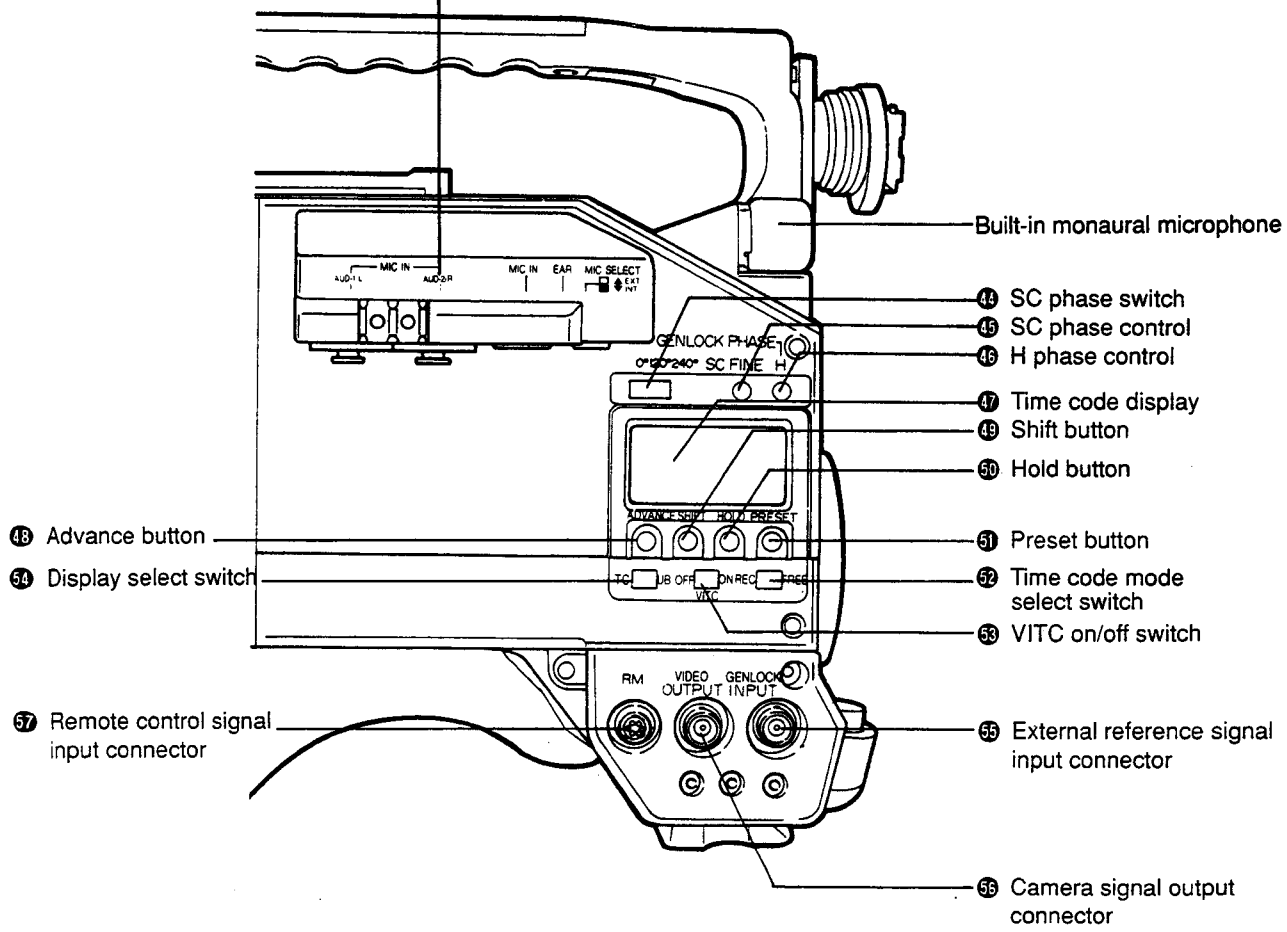
㊷ **[SET] Menu set button**
Press to call up the sub-menu or parameter display indicated by the cursor.

㊸ **[IC CARD] Memory card compartment and release lever**
Install a memory card used for the Advanced Memory System (AMS). To remove the memory card, push the lever up.

Camera head front left-hand section


Audio box
External microphone cable clampers
58 Microphone select switch
59 External microphone connector (6-pin)
61 Earphone jack
60 External microphone connectors (XLR 3-pin)

44 to 57 are provided only on the GY-X1TC.



㊹ [0° 120° 240°] SC phase switch
Adjusts the colour subcarrier phase of this unit in three steps (0°, 120°, and 240°) with respect to the reference sync signal input to connector ㊺ in genlock operation.

㊺ [SC FINE] SC phase control
Fine-adjusts the colour subcarrier phase of this unit with respect to the reference sync signal input to connector ㊺ in gelock operation.

㊻ [H] H phase control
Adjusts the horizontal sync phase of this unit with respect to the reference sync signal input to connector ㊺ in genlock operation.

㊼ Time code display
Displays the time code or user's bits.

㊽ [ADVANCE] Advance button
Used to alter the data of the digit selected with button ㊾

㊾ [SHIFT] Shift button
Used to select the digit of the time code or user's bits to be set.

㊿ [HOLD] Hold button
Press this button before starting setting the time code or user's bits.

(51) [PRESET] Preset button
When this button is pressed after the required time code or user's bits have been set, the time code or user's bits are preset.

(52) [REC/FREE] Time code mode select switch
REC: Counts the time code only when the VTR is recording.
FREE: Counts the time code continuously regardless of the VTR status.
(Counting stops when the power is turned off.)

(53) [VITC] VITC on/off switch
ON: To record the VITC time code.
OFF: Not to record the VITC time code.

(54) [TC/UB] Display select switch
Selects the mode of the time code display㊼.
TC: To display the time code.
UB: To display the user's bits.

(55) [GENLOCK INPUT] External reference signal input connector
Apply a composite video signal or black burst for genlock operation.

(56) [VIDEO OUTPUT] Camera signal output connector
Delivers the video signal of the scene being shot, not the VTR playback signal.

(57) [RM] Remote control signal input connector
Connect an optional local remote control unit (RM-LP80).

Audio box

(58) [MIC SELECT] Microphone select switch
Selects the microphone to be used for recording.
INT: Built-in monaural microphone
EXT: Microphone connected to connector (59) or (60).

(59) [MIC INPUT] External microphone connector (6-pin)
When a microphone is connected to this terminal, set switch (58) to "EXT". This terminal is in parallel with terminal (60).

Pin No.	Function
A	R (Hot)
B	+9 V DC
C	GND
D	L (Hot)
E	L (Cold)
F	R (Cold)

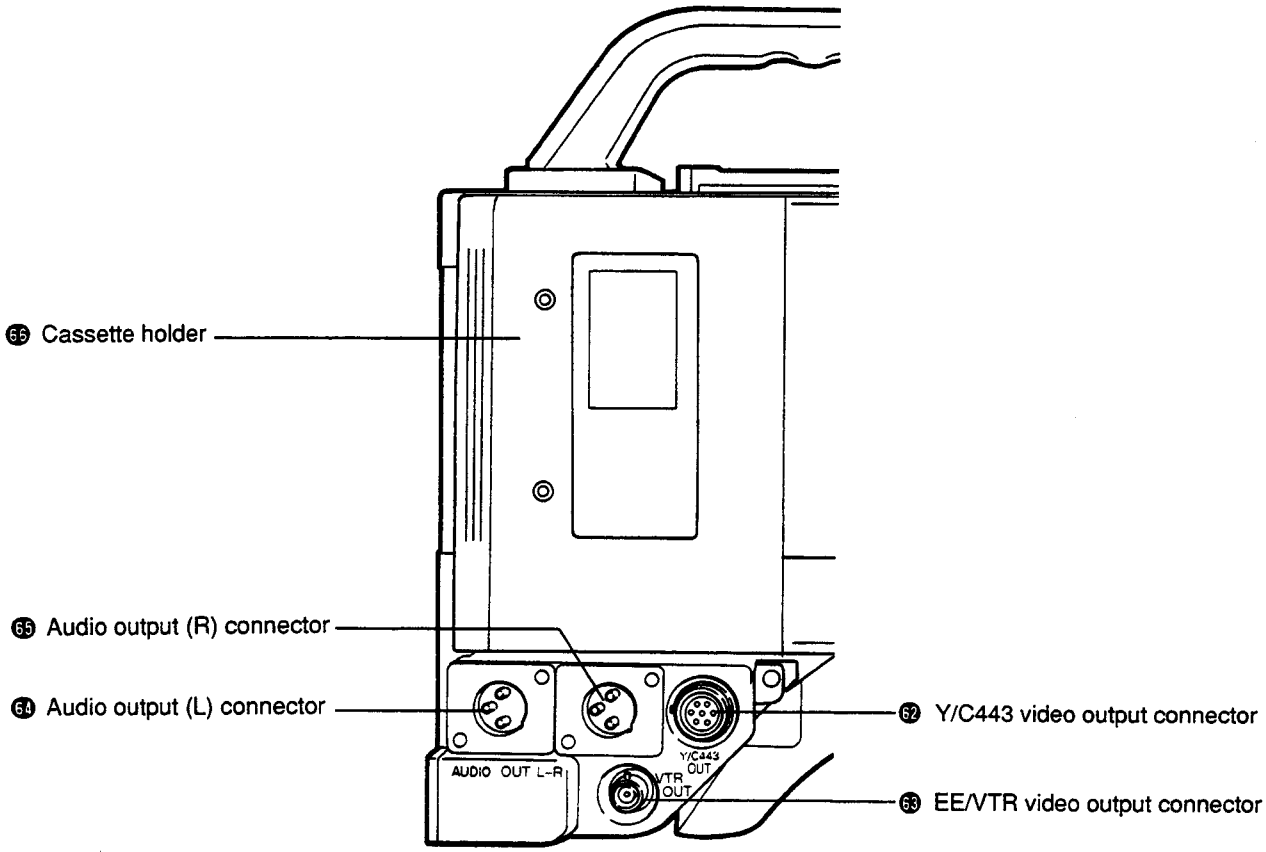
(60) [MIC IN AUD-1/L, AUD-2/R] External microphone connectors (XLR 3-pin)
AUD-1/L for channel 1 (left channel), and AUD-2/R for channel 2 (right channel).
When a microphone is connected to this terminal, set switch (58) to "EXT". This terminal is in parallel with terminal (59).

Pin No.	Function
1	GND
2	HOT
3	COLD

Note
Do not use connectors (59) and (60) at the same time, otherwise the correct input level may not be obtained.

(61) Earphone jack
Allows monitoring of the following audio signals via an earphone:
- Microphone input
- VTR playback audio

Camera head rear left-hand section



⑥② [Y/C443 OUT] Y/C443 video output connector
Delivers the EE signal* being recorded on the VTR or the playback video signal in the Y/C443 format.

⑥③ [VTR OUT] EE/VTR video output connector
Delivers the EE signal* being recorded on the VTR or the playback video signal in the composite video format.

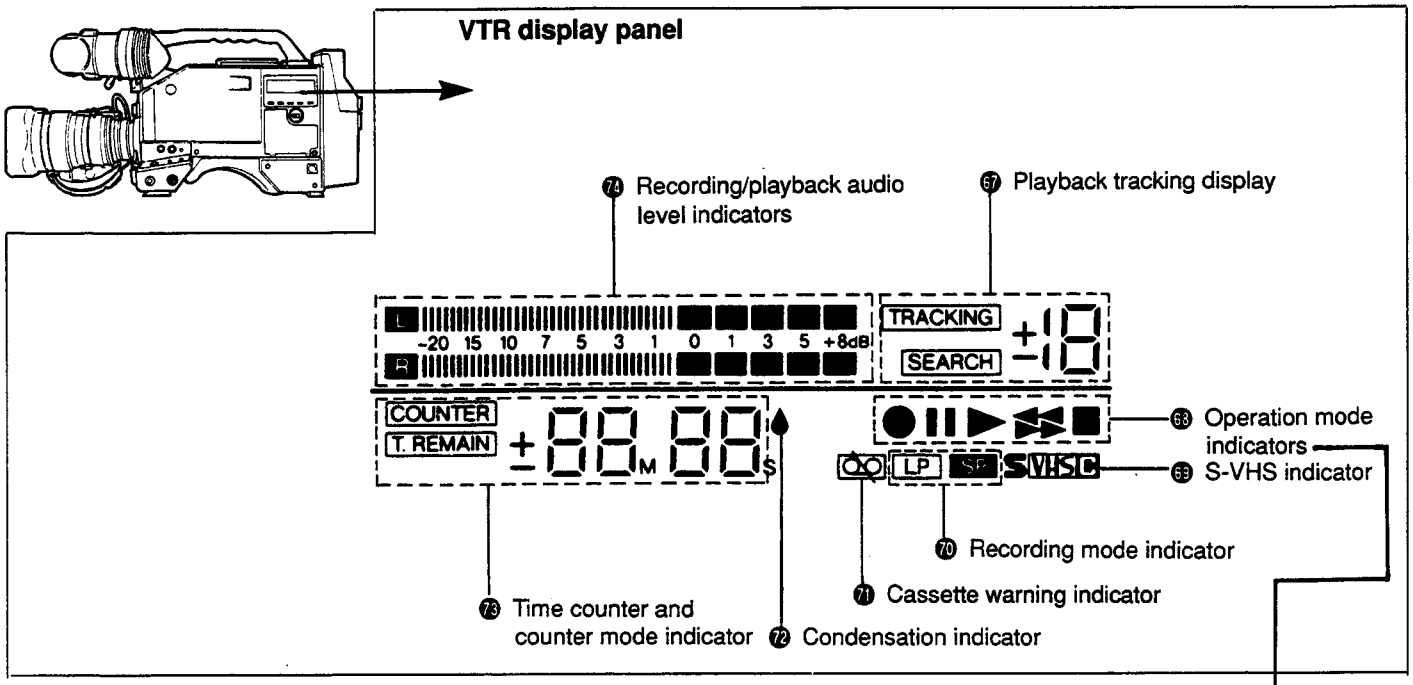
⑥④⑥⑤ [AUDIO OUT L-R] Audio output (L) (R) connectors
Deliver the audio signals being recorded or played back.
L: Left channel
R: Right channel
The output audio can be selected with switch ㊱ from Hi-Fi audio, normal audio, and a mixture of the two.

Pin No.	Function
1	GND
2	AUDIO OUT
3	GND

⑥⑥ Cassette holder
Accepts either an S-VHS C or VHS C cassette.

Terminology

*** EE signal**
EE stands for Electric to Electric. The EE signal refers to a signal which is output only after being processed by the VTR's electric circuits, without passing through the magnetic circuits such as the heads and tape. To check the input signal, use the EE mode.



Operation mode indicators

Record	Record-Pause	Play	Still	Shuttle Search		Fast-Forward	Rewind	Stop
				Forward Search	Reverse Search			
●	● ❚❚	▶	❚❚	▶ ▸▸ Blinks during edit search	▶ ◂◂	▶▶	◀◀	■

⑰ Playback tracking display
Indicates the tracking value when the tracking is being adjusted with the tracking control buttons ㉙.

During shuttle search, "7" appears, indicating that the speed is 7 times normal.

⑱ Operation mode indicators
Indicate the engaged mode with symbols.

⑲ S-VHS indicator
Lights during recording and playback in the S-VHS mode.

⑳ Recording mode indicator
Normally shows SP . When a tape recorded in the LP mode is played back, LP appears, however the Still mode will be engaged after a few seconds.

㉑ Cassette warnings indicator
Blinks if no cassette is loaded, or if a cassette with its safety tab removed is loaded.

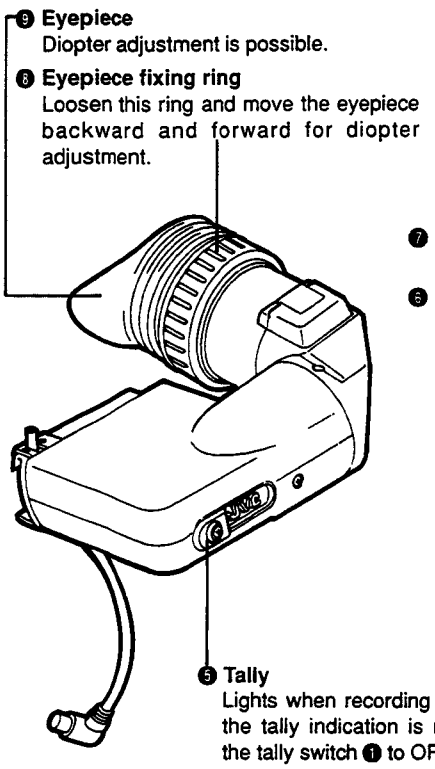
㉒ Condensation indicator
Lights when condensation occurs on the video heads. Make it a rule to check this indicator before recording or playback. If it lights, do not use the unit for recording and playback until the indicator goes off. Do not record or play back while this indicator remains lit, otherwise the tape could be damaged and become unusable in extreme cases.

㉓ Time counter and counter mode indicator
Displays the elapsed time or remaining time in minutes and seconds.
COUNTER: Lights in the Counter mode.
T. REMAIN: Lights in the Remaining time mode.

If the battery pack is in place, the elapsed time is retained in memory even after the power is turned off. With no battery pack attached, the elapsed time memory is retained only for two minutes. Battery replacement should be done promptly.

⑭ Recording/Playback audio level indicators
Indicate the audio level of the audio track selected with the audio select switch ㉟ during recording and playback.

Viewfinder VF-P115



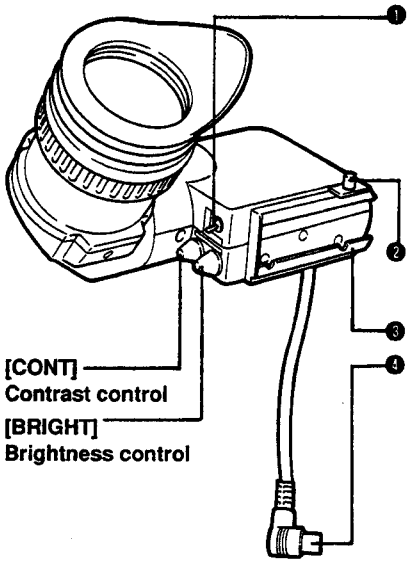
❾ Eyepiece
Diopter adjustment is possible.

❽ Eyepiece fixing ring
Loosen this ring and move the eyepiece backward and forward for diopter adjustment.

❼ [CONT]
Contrast control

❻ [BRIGHT]
Brightness control

❺ Tally
Lights when recording is in progress. If the tally indication is not required, set the tally switch ❶ to OFF.

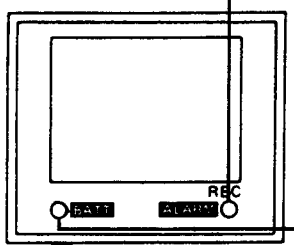


❶ [TALLY]
Set to OFF if you do not want to inform the people being shot that recording is on. The tally ❺ will not light, but the REC indicator ❿ in the viewfinder will continue to function.

❷ Stopper screw
Prevents the viewfinder from coming off the camera head.

❸ Viewfinder shoe

❹ VF cable connector
Connector to connect the viewfinder to the camera head.

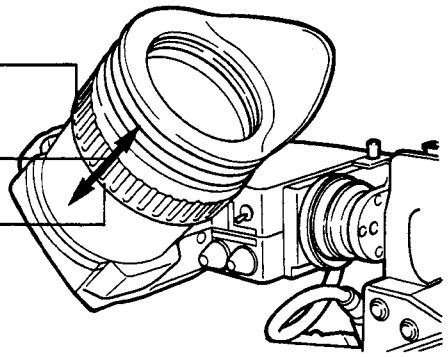


❿ REC/ALARM indicator (green)
Lighs while recording. Blinks when the VTR malfunctions or the tape finishes.
(It also blinks when a recording is started. This indicates that the VTR is preparing to start recording, and is not a sign of a malfunction.)

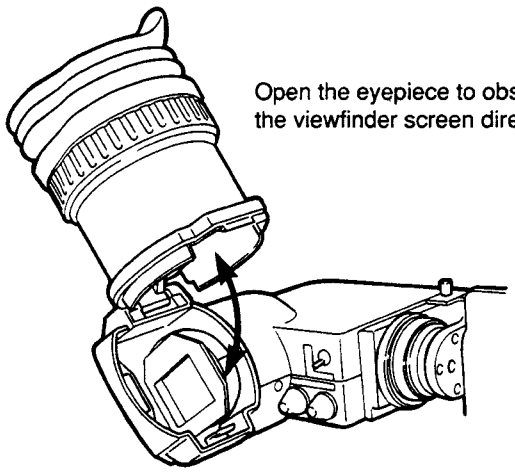
⓫ BATT indicator (red)
Lights when the battery becomes low.

• Diopter adjustment

1. Loosen the ring.
2. Move the eyepiece backward and forward to suit your eyesight.
3. Tighten the ring.

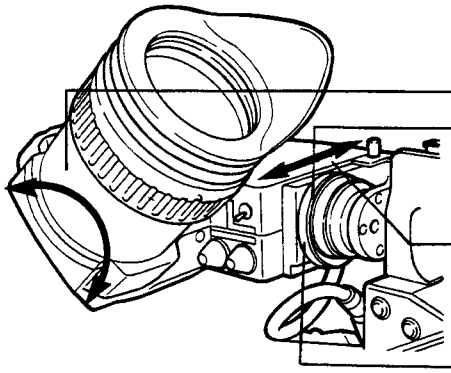


• Eyepiece opening/closing



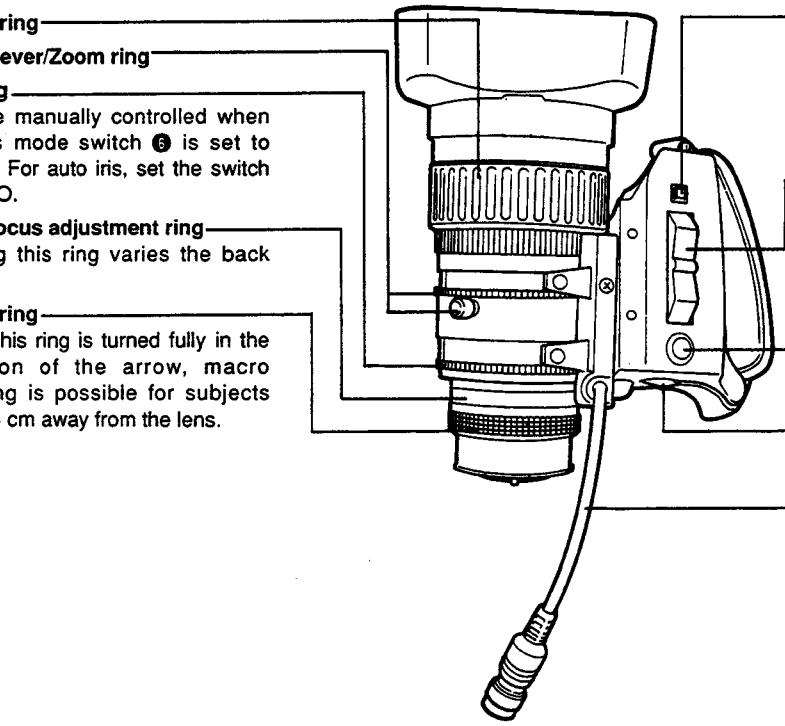
Open the eyepiece to observe the viewfinder screen directly.

• Eyepiece positioning



1. Adjust the angle of the eyepiece in the vertical direction.
2. Loosen the ring.
3. Move the eyepiece to the left or right for optimum viewability.
4. Tighten the ring.

Zoom lens HZ-714



❶ **Focus ring**

❷ **Zoom lever/Zoom ring**

❸ **Iris ring**
Can be manually controlled when the iris mode switch ❻ is set to MANU. For auto iris, set the switch to AUTO.

❹ **Back focus adjustment ring**
Turning this ring varies the back focus.

❺ **Macro ring**
When this ring is turned fully in the direction of the arrow, macro shooting is possible for subjects about 3 cm away from the lens.

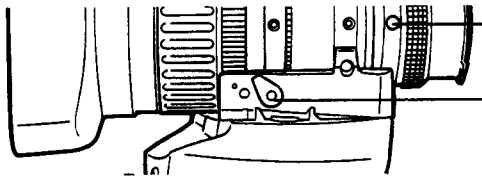
❻ **Iris mode switch**
AUTO: For auto iris.
MANU: For manual iris.
* When using an optional remote control unit, set this switch to AUTO.

❼ **Zoom servo lever**
This toggle lever controls the zooming speed and direction.

❽ **[RET] Return button**
Not used when this lens is used with the GY-X1TC/GY-X1.

❾ **VTR start/stop button**
A start/stop trigger to be used in normal shooting. Or a stop trigger to be used in quick recording.

❿ **Lens cable**
Connect to the lens connector on the camera head.

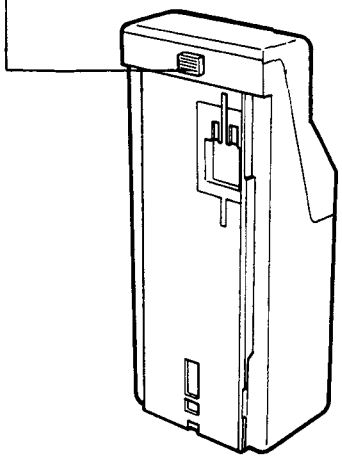


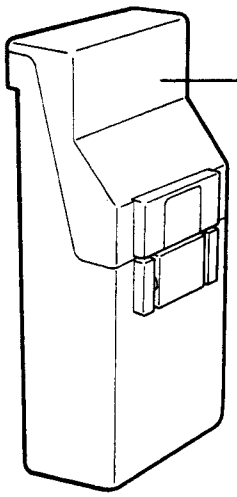
⓫ **Retaining knob**
To secure the back focus adjustment ring ❹.

⓬ **[ZOOM] Zoom mode knob**
S: For servo control of the zoom lens.
M: For manual control of the zoom lens.

Battery holder BH-P10

❶ **Cover open button**
Open the cover while pressing this button.

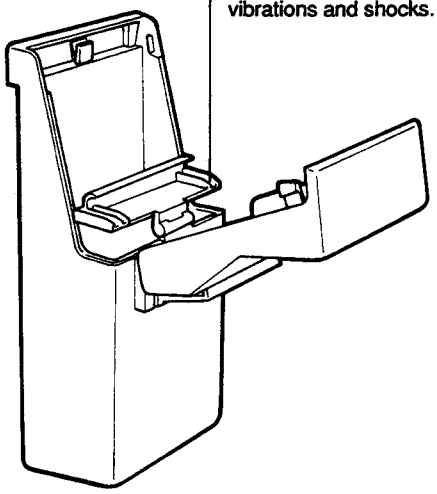




❷ **Cover**

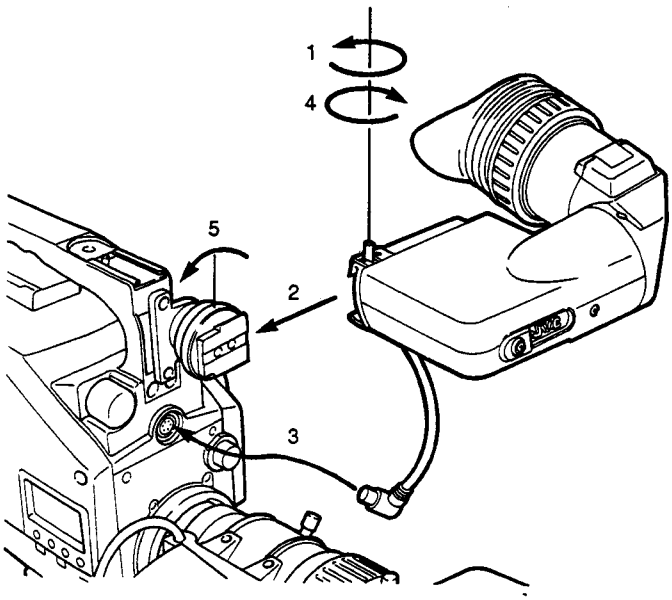
Usable battery packs
- JVC NB-G1
- SONY NP-1A
- PACO DP10, DP11

❸ **Battery retainer**
To prevent the battery from coming out of place due to vibrations and shocks.



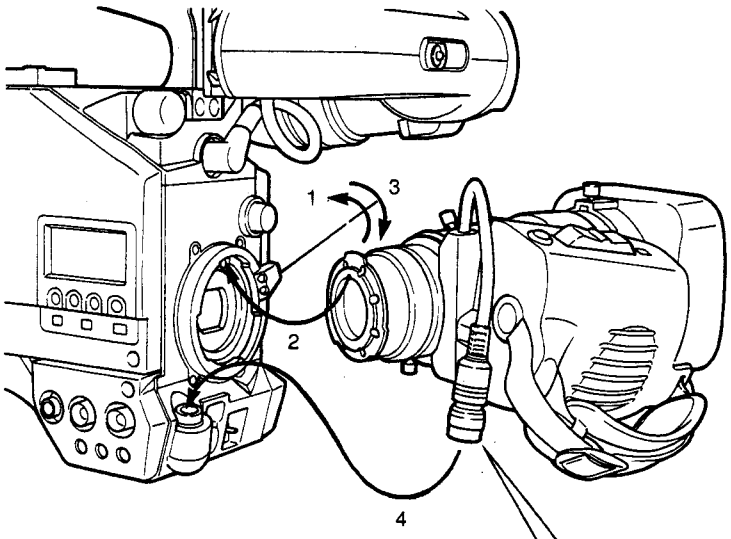
PREPARATIONS

Attaching the VF-P115 viewfinder



1. Loosen the stopper screw.
2. Attach the viewfinder with its guide aligned with the shoe.
3. Connect the cable.
4. Tighten the stopper screw.
5. Tighten the ring.

Attaching the HZ-714 zoom lens



1. Loosen the mount ring.
2. Attach the lens with its pin aligned with the hole in the mount.
3. Tighten the mount ring.

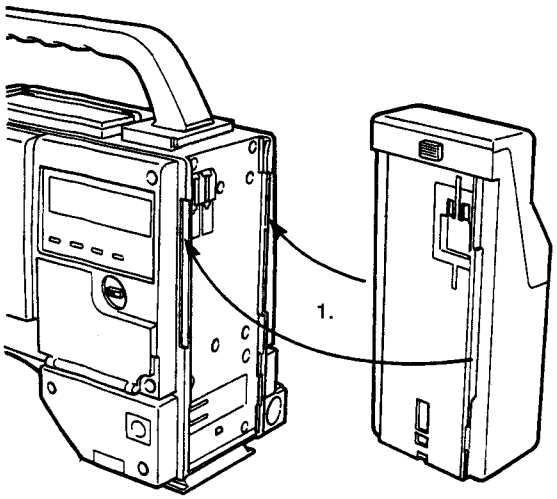
Be sure to tighten the ring completely, otherwise the lens might drop or the back focus might shift.

4. Connect the cable.
   Positioning marks (▼) facilitate connection.

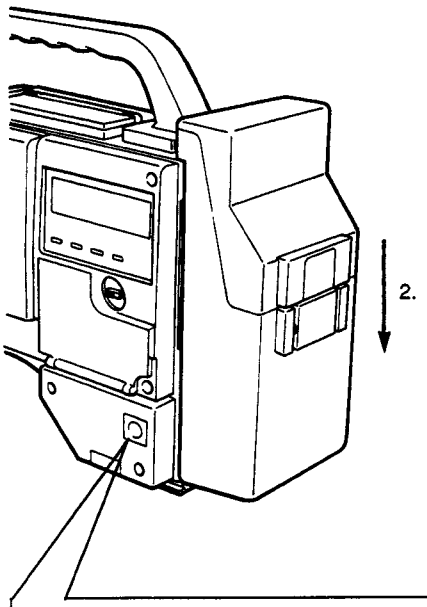
When unplugging the cable, grasp this portion and pull up. If you have any difficulty, it may be better to remove the lens itself first. In this case, be careful not to drop the lens.

Attaching the BH-P10 battery holder

1. Align the guides of the battery holder with the rails of the camera head.
   Positioning marks (▼) facilitate connection.

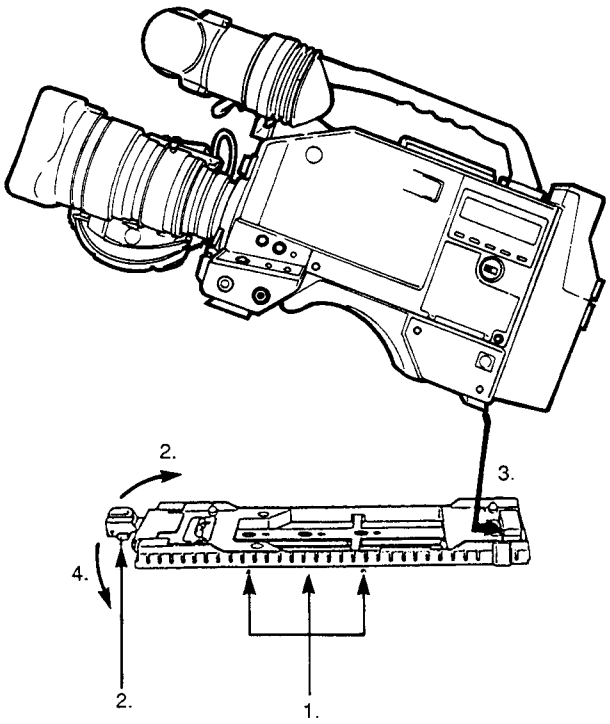


2. Push down the battery holder.



When removing the battery holder, push it up while pressing this button.

Mounting on the tripod (using the KA-500X tripod base)



1. Attach the tripod base to the tripod.

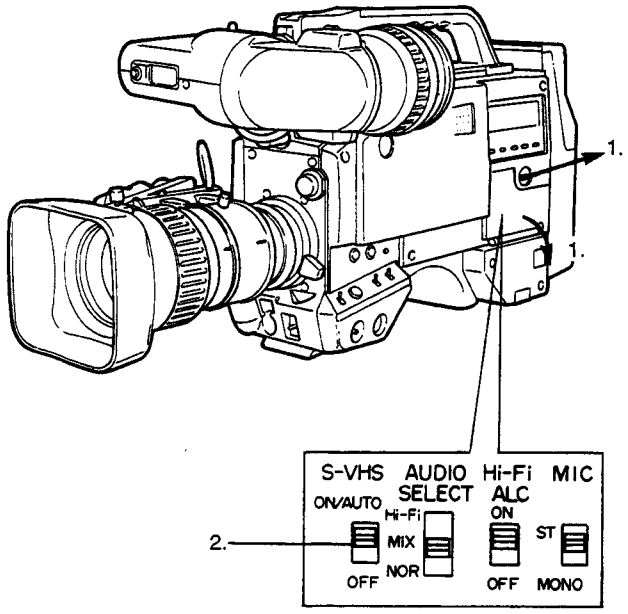
- Use either the 1/4" or 3/8" threaded hole depending on the tripod used.
- Select one of the three threaded holes (front, middle, rear) considering the center of gravity of the camera.

2. Turn the lever clockwise while pressing the unlock button of the tripod base.
3. Insert the tab on the rear of the camera into the hook on the rear of the tripod base and place the camera on the tripod base.
4. Turn the lever of the tripod base counterclockwise to secure the camera.

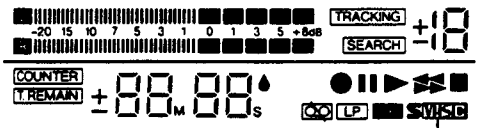
Note

When removing the camera, be sure to hold the camera by its handle with one hand, and then release the lever of the tripod base, otherwise the camera may drop off.

Video cassettes



VTR display panel



Usable video cassettes

This unit is capable of recording and playback in the S-VHS mode. To take advantage of the high resolution and high picture quality available with the S-VHS system, use video cassettes marked **"S-VHS-C"**. (**S-VHS** cassettes can also be used in the conventional VHS mode.)

Setting the S-VHS mode select switch

1. Open the function box cover by pushing the unlock lever to the rear.
2. Set the S-VHS switch as required.
   - To record in the S-VHS mode, set the switch to ON/AUTO.

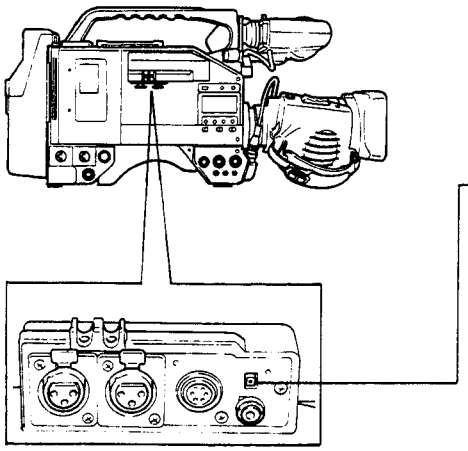
S-VHS recordings are not possible with VHS-C cassettes. With these cassettes, the VHS mode is selected automatically.

- To record in the VHS mode, set the switch to OFF.

The VHS mode is selected regardless of the type of cassette.

- In playback, there is no need to set the S-VHS mode select switch because the mode of the recorded signal is detected and switching is automatic.
- The S-VHS indicator lights during recording and playback in the S-VHS mode.

Connecting an external microphone

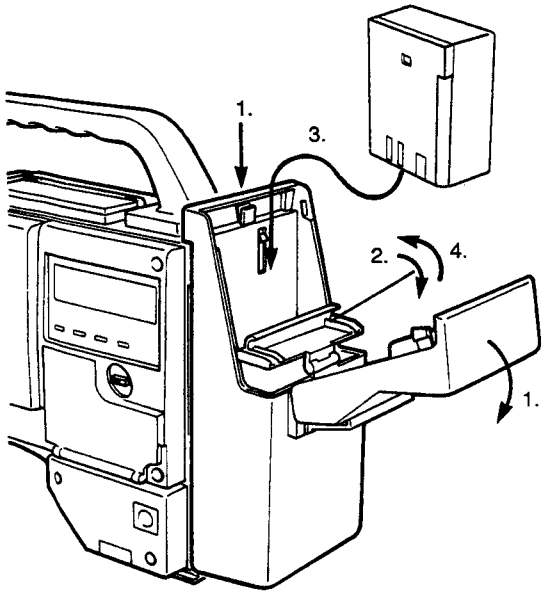


By using the optional KA-A10 microphone holder, an external microphone (optional) can be connected.

- Usable microphones
  MK-50 (monaural)
  MV-P602 (stereo)
  MV-P612 (stereo)
- When an external microphone is connected, set the MIC SELECT switch to "EXT".
- For connections, refer to the instruction manual of the KA-A10.

POWER SUPPLY

Using the NB-G1 (JVC) or NP-1A (SONY) battery pack



To install the battery pack

1. Open the cover while pressing the buttons.
2. Swing out the battery retainer.
3. Install the battery pack with its terminals facing the camera. (The illustration shows an NB-G1 battery pack.)
4. Replace the battery retainer and close the cover.

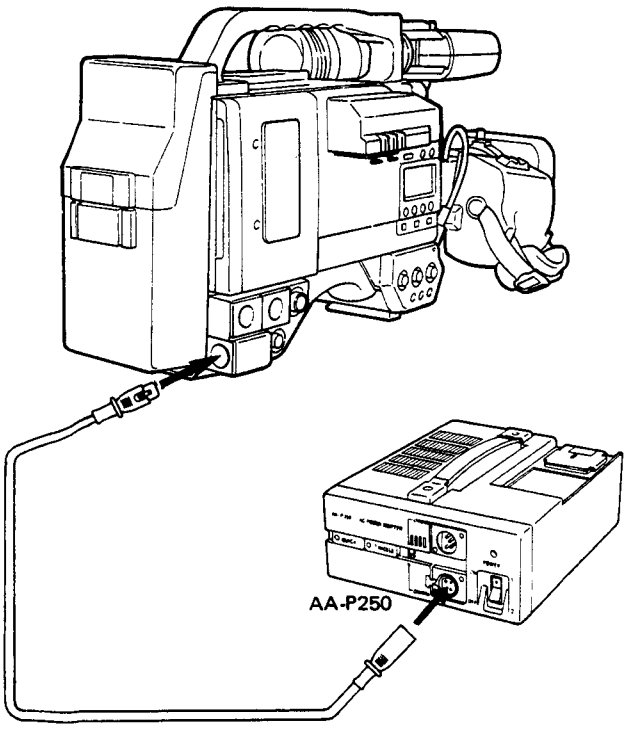
If the cover is closed without replacing the battery retainer, the battery retainer may be damaged.

Operating time

A fully charged battery pack offers the following continuous operating time at 25°C:
NB-G1: Approx. 30 minutes
The operating time may be shorter than this depending on the battery storage condition and ambient temperature.

- Before recording, charge the battery pack. It is recommended that several charged battery packs are kept at hand as spares.
- To charge the battery pack, use an optional AC power adapter. For the charging procedure refer to the instruction manual of the optional AC power adapter.
- The battery condition can be checked on the viewfinder screen. (See page 31.)
- When the battery pack is becoming low, a warning indicator appears. (See page 23) When this indicator is seen, replace the battery pack with a charged one.
- Do not leave the battery pack in a place subject to high temperatures, as this could damage it and make it unusable.

Using the AA-P250 AC power adapter



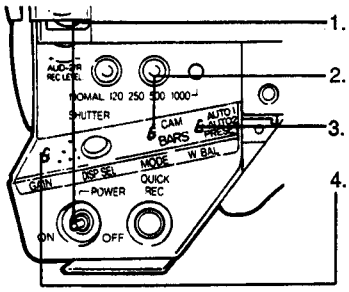
1. Connect the camera head to the AC power adapter using the cable provided with the AC power adapter.
2. Set the switch to CAMERA.
3. Set the POWER switch of the AC power adapter to ON.

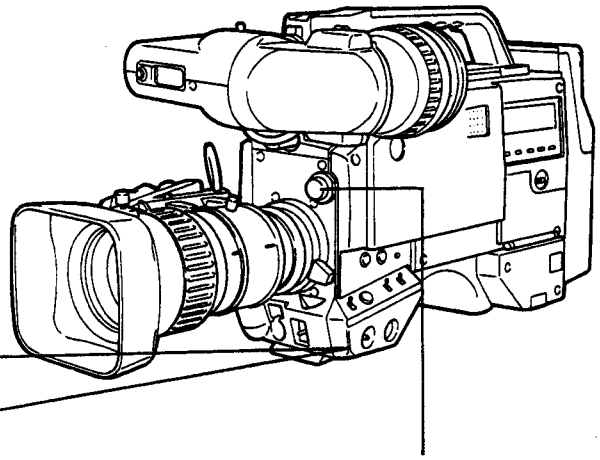
Do not use power units other than specified, otherwise the recorder may stop due to a temporary drop in power because of the operation of the protective circuit.

ADJUSTMENTS

Before making adjustments

Turn the power on and set the switches and controls as follows:


1. "ON"
2. "CAM"
3. "AUTO 1"
4. Set this so that "0 dB" appears on the viewfinder screen.
5. Adjust the brightness and contrast of the viewfinder picture.



Select the filter by turning the filter control.
Position 1 (3200K): For shooting indoors or outdoors when illumination is not sufficient.
Position 2 (5600K): For shooting outdoors.
Position 3 (5600K + ND): For shooting outdoors on sunny days.

Adjusting the back focus

Back focus adjustment is needed only in the following cases:

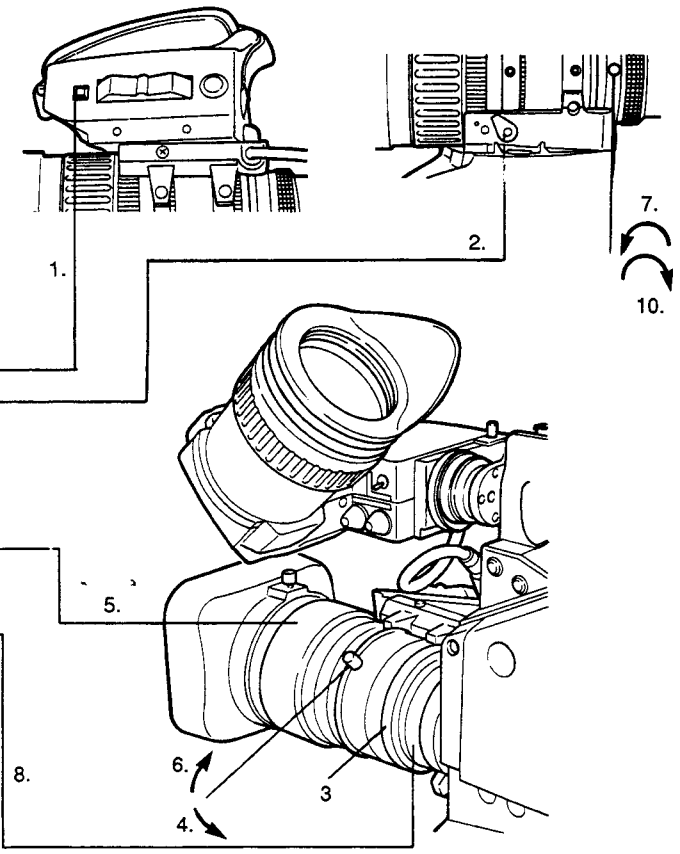
- When a lens is attached for the first time, or the lens is replaced.
- When correct focus is not available in both telephoto and wide-angle positions.

Procedure

Follow the steps in "Before making adjustments".

- Back focus adjustment should be done while referring to the viewfinder picture.
- More correct adjustment is possible if the subject is at a distance of more than 3 m from the camera.

1. Set the iris mode switch to MANU.
2. Set the zoom mode switch to M.
3. Set the iris ring to "open" (1.4).
   If the illumination is too strong, reduce it or move to a darker place.
4. Set the zoom lever fully to TELE.
5. Focus on the subject.
6. Set the zoom lever fully to WIDE.
7. Loosen the back focus ring retaining knob.
8. Adjust the back focus ring for the best possible focus.
9. Repeat steps 4 through 8 several times for fine adjustment.
10. Tighten the back focus ring retaining knob to secure the back focus ring.



Adjusting the white balance and black balance

White balance adjustment is needed only in the following case:

- When the light source illuminating the subject is changed before shooting or during shooting.

Black balance adjustment is needed only in the following cases:

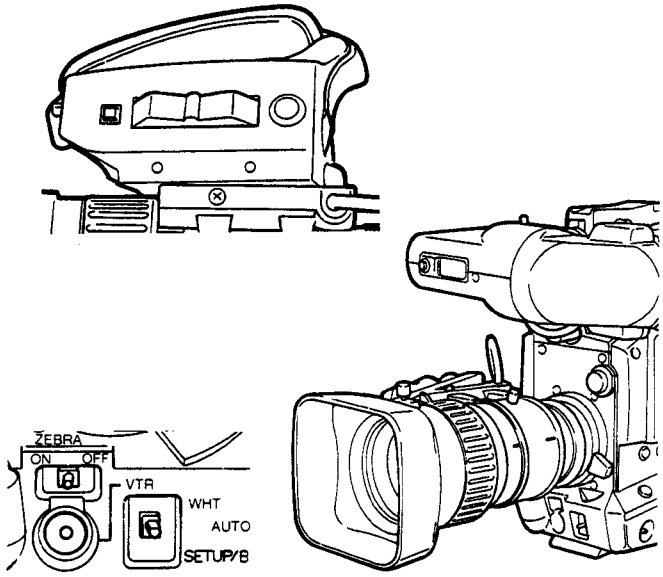
- When this unit is used for the first time, or after a long period of storage.
- When the ambient temperature has changed drastically.

Normally, it is not necessary to re-adjust the black balance when the power is turned off and then turned on again.

Procedure

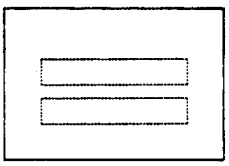
Follow the steps in "Before making adjustments".

1. Set the iris mode switch to AUTO.
2. Shoot a white object (such as a cloth, wall) to fill the screen.
3. Push the AUTO switch as required.
   - Up (toward WHT) to adjust white balance only. (No need to keep it depressed.)
   - Down (toward SETUP/BLK) to adjust both white balance and black balance at the same time. (No need to keep it depressed.)



- It is also possible to adjust black balance independently by using the memory function. (See page 32)

4. During adjustment, messages showing the process will be seen on the viewfinder screen.



Items to be adjusted
- AUTO WHITE 1 (AUTO1 mode)
- AUTO WHITE 2 (AUTO2 mode)
- AUTO BLACK (Auto Black)
- AUTO SET UP (appears after completion of simultaneous white and black balance adjustments)

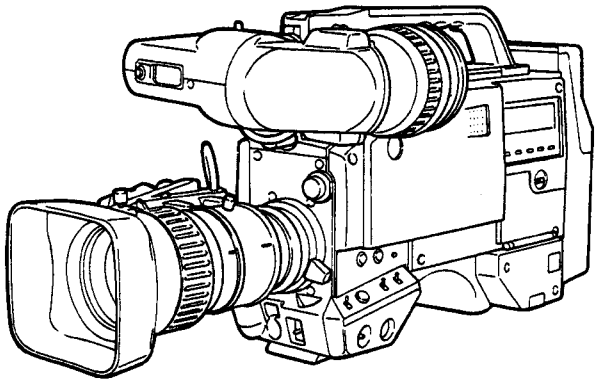
Process of adjustment
- OPERATION (adjustment is being executed)
- COMPLETED (adjustment is completed)

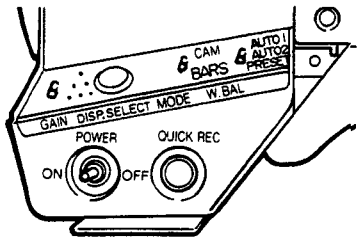
Error messages
These messages are given as warnings.
If an errror message appears, check for the following causes, then perform adjustment again.

- LOW LIGHT ERROR
  Cause : Insufficient lighting.
  Remedy : Increase lighting, or increase sensitivity with the GAIN switch. (The S/N will deteriorate with increased sensitivity.)
- OBJECT ERROR
  Cause : The object being shot is not appropriate.
  Remedy : Check whether it is sufficiently white, and change it if necessary.
- OVER LIGHT ERROR
  Cause : Incoming light is too strong.
  Remedy : 1. Check whether strong light such as direct or reflected sunlight is striking the lens.
  2. Set the filter control correctly.
- LENS NOT CLOSE?
  Cause : Lens is not in auto operation.
  Remedy : Check the lens cable connection.

IMPORTANT FUNCTIONS

White balance mode setting and white balance memories





This unit is capable of holding white balance settings adjusted according to the lighting condition in memory.

White balance modes

Set the white balance mode as required with the W. BAL switch.

AUTO 1, AUTO 2 : To obtain automatically adjusted white balance settings. It is also possible to use the full-time auto white in the AUTO2 position.

PRESET : To use a preset white balance setting corresponding to a color temperature of 3200K with the filter control set to 1.

- When the switch is reset, the corresponding mode is displayed on the viewfinder screen for a few seconds.

White balance memories AUTO 1 and AUTO 2

This unit has two independent memories which are capable of storing independent white balance settings. It is possible to set filter-linked white balance settings for each memory.

Prior to shipment

AUTO 1 :Filter-linked operation.
AUTO2 :No filter-linked operation.

To store settings into memory

1. Set the filter control according to the lighting condition.
2. Select the memory (AUTO 1 or AUTO 2) with the W. BAL switch.
3. Perform white balance adjustment. (See page 20.)
4. The white balance setting in the selected filter position will be stored in memory.

- When filter-linked operation is not used, the white balance will vary if the filter position is changed.
- In filter-linked operation, store white balance settings at each filter position following steps 1 through 4.
- Setting to filter-linked operation is performed using the memory function. (See page 32.)

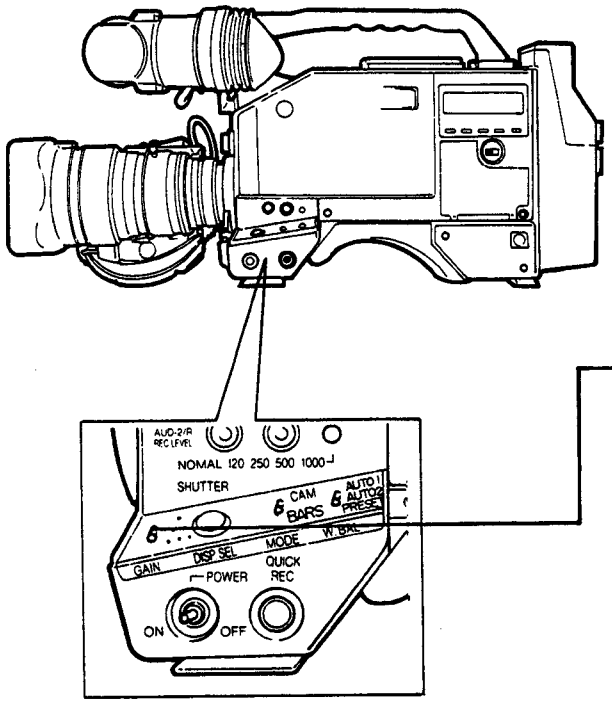
Full-time auto white

"Full-time auto white" is a function which allows the white balance setting to automatically track the lighting no matter how the lighting condition may vary during shooting. The full-time auto white mode is automatically engaged regardless of the setting of the W. BAL switch when recording is initiated using the quick-recording trigger.

- White balance may not be perfect if the entire picture has a uniform colour tone.
- Use this function in emergency shooting, when there is no time to adjust white balance, or no white balance settings are held in memory.
- It is also possible to program the memory so that the full-time auto white mode is engaged by setting the W. BAL switch to AUTO 2. (See page 32.)

Sensitivity setting

When the subject is dark and the amount of light is not sufficient, the camera's sensitivity can be increased electronically.



To select the sensitivity

To select the sensitivity, set the GAIN switch as required.
There are five sets of available sensitivities at three switch positions. The combination of sensitivities can be selected using the memory function. (See page 32.)

Switch position	Sensitivity (The greater the value, the higher the sensitivity.)				
●	0 dB	0 dB	0 dB	6 dB	9 dB
●●	9 dB	6 dB	6 dB	0 dB	0 dB
●●●	18 dB	12 dB	*ALC	12 dB	18 dB

Preset prior to shipment.
* ALC: Automatic Level Control mode

- The higher the sensitivity, the more grainy the picture.
- When the switch position is changed, the available sensitivity is displayed for a few seconds on the viewfinder screen.

Video ALC (Automatic Level Control)

Video ALC is a function which allows the camera's sensitivity to be adjusted automatically according to the brightness of the subject.
The video ALC automatically functions regardless of the setting of the GAIN switch when recording is initiated using the quick-recording trigger. The video ALC starts operating when the iris reaches a certain value. This makes it possible to shoot while keeping the depth of focus constant.

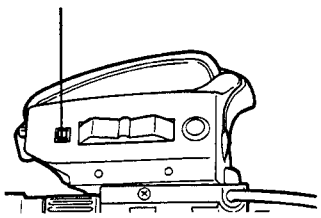
- The higher the sensitivity, the more grainy the picture.
- It is possible to make the video ALC function in the "●●●" position of the GAIN switch, by using the memory function. (See page 32.)
- The iris value at which the video ALC starts operating can be set by using the memory function. (See page 32.)
- Sensitivity varies continuously between 0 dB and 12 dB.

Auto iris and APB function

Auto iris is a function which determines the aperture of the lens automatically according to the brightness of the subject.
In measuring light, the peak and average levels are detected and mixed at a certain ratio. With conventional auto iris systems, this mixing ratio is fixed. The APB (Automatic Peak and average Balance) function mixes the peak and average levels at an optimum ratio according to the subject, thereby ensuring an optimum iris.

To engage the auto iris mode:

Set the IRIS MODE switch of the lens to AUTO.



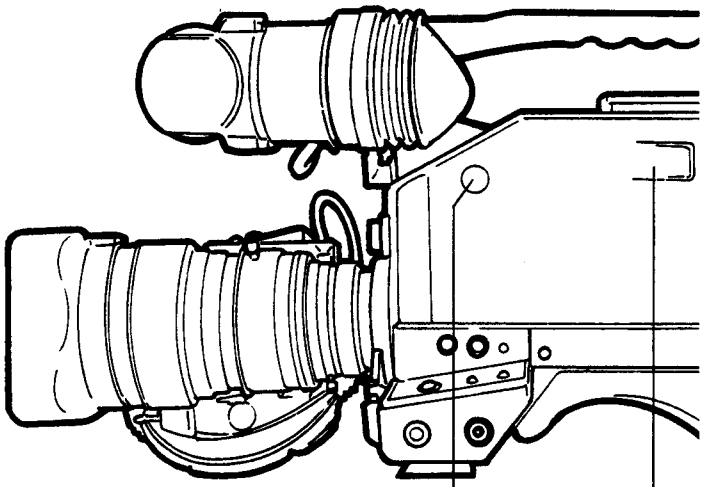
To change the auto iris parameters:

It is possible to change the auto iris parameters by using the memory function. (See page 32.)

- Iris level
- APB on/off
- Peak/average mixing ratio
- Light measuring region
- Response speed
- Video ALC limit

Warning functions

This unit warns the operator of various malfunctions, if any, during shooting/recording by means of both audio and viewfinder messages.



Adjust the speaker volume with the volume control.

Warning by audio

Messages in a female voice are heard from the monitor speaker.

Messages include:

"VTR warning."

This message is heard when tape running is not proper because of condensation on the heads, or a servo system malfunction.

"End of tape."

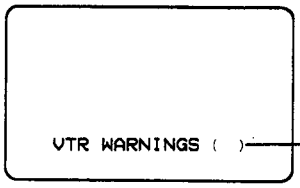
This message is heard when the remaining tape time reaches less than 2 minutes. If you want to continue recording, replace the cassette.

"Low battery."

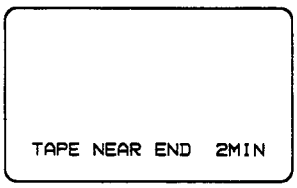
This message is heard when the battery is depleted. Replace the battery pack with a charged one.

- It is possible to defeat the audible messages by using the memory function. (See page 32.)

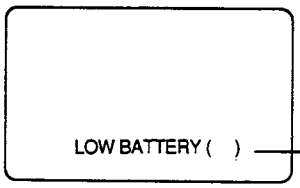
Warning indications on viewfinder screen



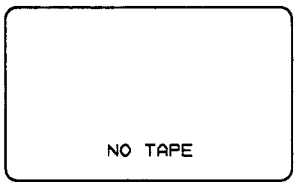
This indication blinks when tape running is not proper, and the cause is indicated in parentheses as follows:
DEW: Condensation on the video heads.
SERVO: Servo failure.
(blank): Other malfunctions.



This indication blinks when the remaining tape time reaches less than 2 minutes. Continues blinking with the time counting down in minutes to zero.



This indication starts blinking when the battery voltage drops, and the voltage is indicated in parentheses.

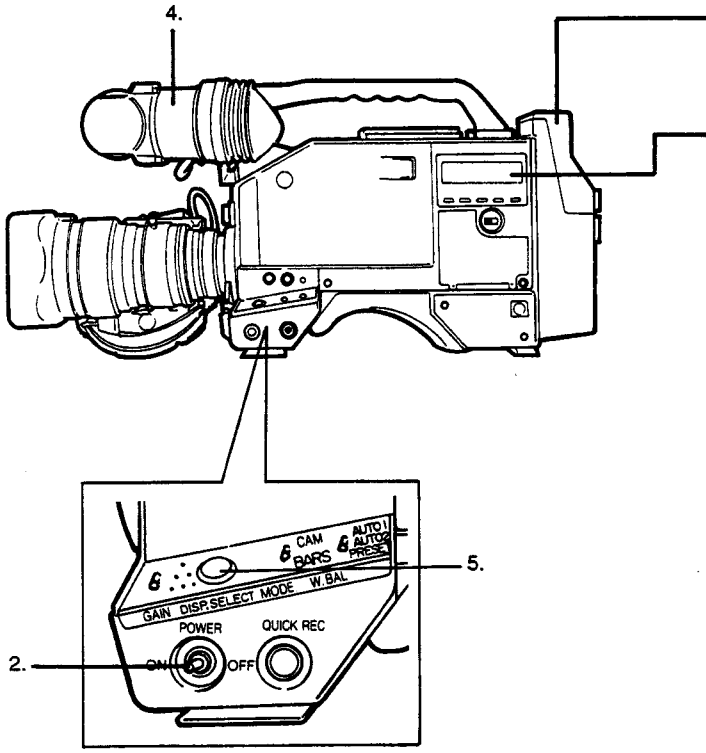


This indication blinks for a few seconds after the VTR start/stop trigger or quick recording start/stop trigger is pressed with no cassette loaded or with a cassette whose safety tab has been removed.

- No warning indication is possible when a title is displayed on the viewfinder screen.
- No warning indication appears during tape playback.
- The "NO TAPE" indication does not appear when the Mode-2 status display (see page 31) is on the viewfinder screen.
- Warning indications will disappear when the status display mode is changed with the DISP. SEL button. Do not attempt to change the status display mode until the cause of the warning is eliminated.

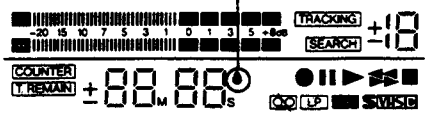
SHOOTING OPERATION

Normal shooting



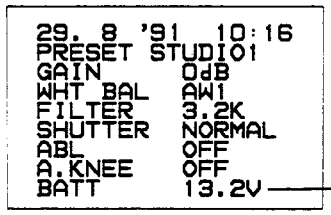
1. Install a charged battery pack.
2. Set the POWER switch to ON.
3. Make sure that the condensation indicator is off. If it is on, wait until it goes off.

Condensation indicator



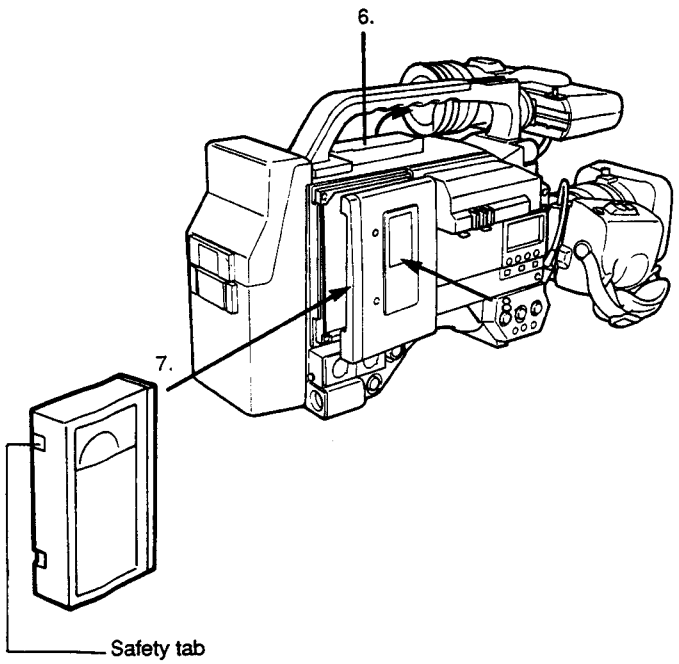
When there is condensation, a warning indication also appears on the viewfinder screen. (See page 23.)

4. Adjust the brightness and contrast of the viewfinder picture.
5. Press the DISP. SEL (Status Display Select) switch a number of times to obtain the mode-2 display (see below) and check the battery voltage.



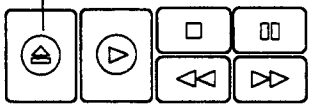
Viewfinder screen

- More than 12 V is necessary for proper operation.
- With a fully charged battery pack, 13 V or so will be displayed.



6. Open the VTR control section cover and press the EJECT button.
(Pressing the EJECT button immediately after the power has been turned on may fail to open the cassette holder. Wait for about 7 seconds.)

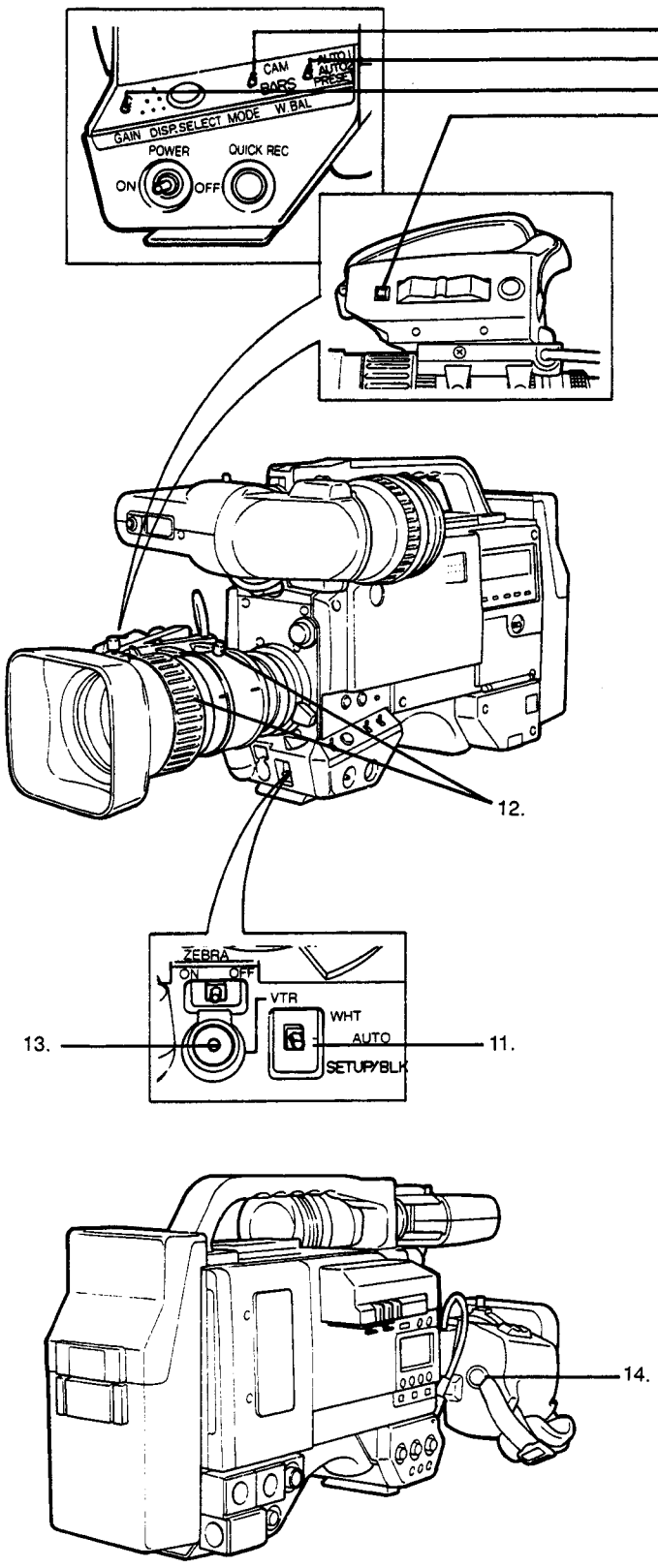
EJECT button



7. Load a video cassette with its safety tab in place.
(Insert the cassette fully, otherwise the tape could be damaged.)
8. Close the cassette holder securely by pressing its center portion.
The tape will be loaded automatically, and the unit will enter the Record-Pause mode. (It takes about 15 seconds.)

Related subjects and reference pages

- Viewfinder display (→ Page 31)
- Video cassettes and mode setting → Page 17)
- VTR display panel (→ Page 12)



9. Set the switches as required.
   - "CAM"
   - "AUTO 1" or "AUTO 2"
   - Sensitivity suitable for the subject.
   - "AUTO"

10. Select the filter according to the lighting condition.
    - Position 1 (3200K): For shooting indoors or outdoors when illumination is not sufficient.
    - Position 2 (5600K): For shooting outdoors.
    - Position 3 (5600K+ND): For shooting outdoors on a sunny day.

11. Adjust the white balance and black balance. (See page 20.)

12. Point the camera at the subject and determine the angle of view and focus with the zoom lever and the focus ring.

13. Press the VTR start/stop trigger on the camera or lens. Recording will start in about 2 seconds. Pressing the trigger again will engage the Record-Pause mode after quick-review.

14. When shooting is completed, eject the cassette and turn the power off.

Notes

- If you switch off the power within one second after the cassette holder is opened, it may not be closed fully. In this case, turn the power on and close the cassette holder. Then turn the power off.
- The cassette cannot be ejected if the power supply is insufficient (too low or no battery power). In such a case, replace the battery pack with a charged one.
- While in the Record-Pause mode, the viewfinder indication changes as follows:
  No indication (about one second)→Quick Review*→ No indication (about one second)→Camera signal
- The REC/ALARM indicator (green) in the viewfinder blinks until recording actually starts. This is not due to any defect of the unit, but indicates that the VTR is preparing for recording.

Related subjects and reference pages

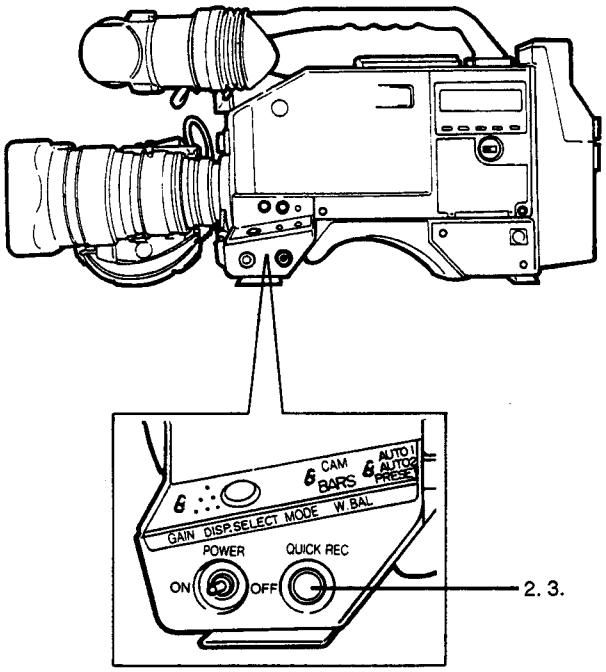
- Audio level adjustment (→ Page 27)
- Title display on/off (→ Page 30)
- Warning messages (→ Page 23)
- Quick-review (→ Page 6)

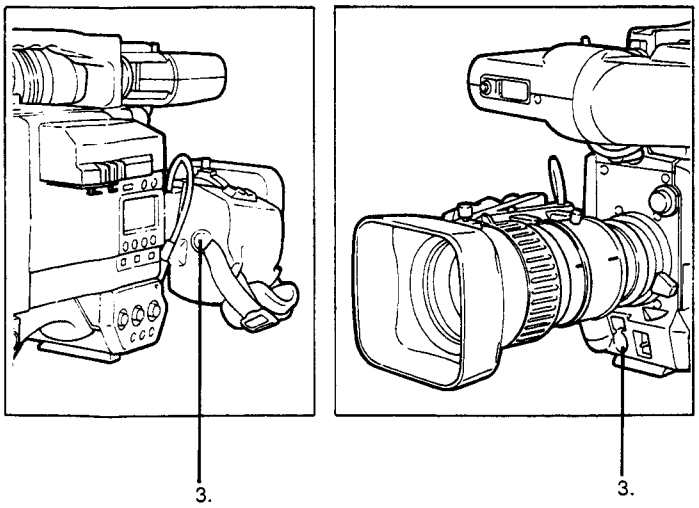
Quick recording

The quick-recording function ensures pictures of reasonable quality even when there is no time for camera adjustments and settings.
When you start recording with the quick-recording trigger, the camera is in the status shown next regardless of the settings of the switches and the memory function.

- Auto iris
- Video and audio ALC
- Full-time auto white balance
- Camera output even when color bar is selected.

Allow 10 seconds or more after the power has been switched on, otherwise the quick-recording function will not operate properly.





Items to be checked

- For the quick-recording function to work properly, steps 1 through 8 in "Normal shooting" must have been completed. In other words, at least check the following items:
  1. A charged battery must be installed.
  2. There is no condensation on the video heads.
  3. A cassette with its safety tab in place must be loaded.

Procedure

1. Check points 1, 2 and 3 above.
2. Press the QUICK REC trigger. Recording will start in about 2 seconds.
3. To stop recording, press one of the following triggers:
   - QUICK REC trigger
   - VTR trigger on the camera
   - VTR trigger on the lens

   When recording is stopped, the camera resumes the status in which it was before quick recording was initiated.

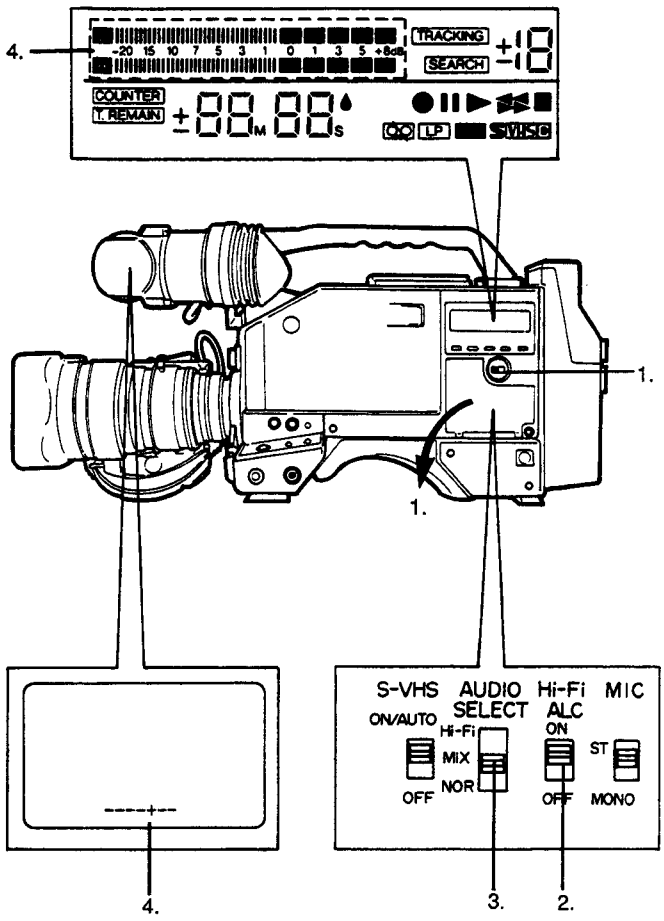
Special mode

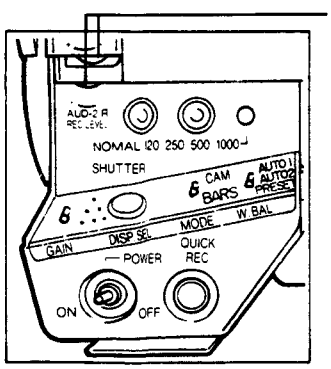
- There is a special quick recording mode.
  In the special mode, the camera does not return to the original status after recording is stopped, but stands by for the next quick recording trigger.
  This special mode is available by using the memory function. (See page 32.)
  Normal shooting is possible even after the special mode is set by the memory function. However, once quick recording is initiated, normal shooting is not possible unless the power is switched off and on again. (When the power is switched on again, the special mode is disengaged.)

Related subjects and reference pages

- Auto iris (→ Page 22)
- Full-time auto white (→ Page 21)
- Video ALC (→ Page 22)

Audio level checking and setting





Recording level

The recording level can be checked on the viewfinder screen or the VTR display section. The recording level is optimum when the level indicator shows about 0 dB with the loudest input.
AUD-1/L: Channel 1 (left) level
AUD-2/R: Channel 2 (right) level

Higher ↖ ↗ Lower

Turn the control.

Audio level checking

The recording level can be checked on the viewfinder screen or the VTR display section.

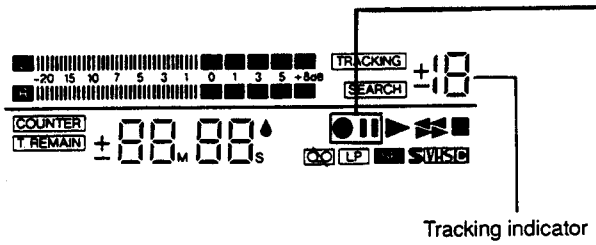
1. Open the function box cover by pushing the unlock lever to the rear.
2. Set the Hi-Fi ALC switch to OFF.
   (For automatic control of the Hi-Fi audio recording level, set the switch to ON.)
3. Select the audio track to be checked with the AUDIO SELECT switch.
   Hi-Fi : Hi-Fi audio track
   NOR : Normal audio track
   MIX : A mixture of the two
4. Check the audio level.
   - Referring to the VTR display section, it is possible to check both channels independently.
   - Referring to the viewfinder screen, call up the Mode-0 status display. The L and R channels are mixed and the level is indicated in 7 steps. ("+" corresponds to 0 dB.)
5. Adjust the audio level.
   - When the Hi-Fi ALC is in the OFF position, the Hi-Fi audio recording level and balance are adjusted manually. (See the figure, left.)

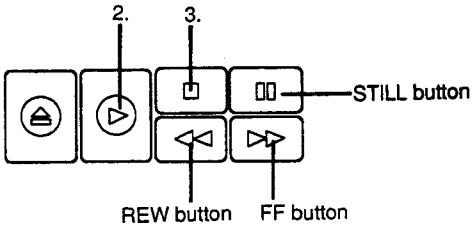
- The normal audio (monaural) recording level is adjusted automatically.
- If the recording level is excessively high, howling might occur, or warning messages will be picked up and recorded.
- The warning messages from the monitor speaker can be defeated using the memory function. (See page 32.)

Related subjects and reference pages

- Warning messages (→ page 23)

Checking the playback picture





To play back the tape:

1. Load a recorded cassette and make sure that the unit is in the Record-Pause mode.
2. Press the PLAY button.
   Playback pictures will be seen on the viewfinder screen.
3. Press the STOP button to stop playback.
   After playback is stopped, the Record-Pause mode will be engaged.

To view a still picture:

Press the STILL button while in the Play mode. To return to normal playback, press the PLAY button.

When the STILL button is pressed in the Still mode, the picture is advanced by one frame. Keeping the Still button depressed advances the picture continuously.

To rewind or fast-forward the tape:

Press the REW or FF button while in the Record-Pause mode; the tape will be rewound or fast-forwarded.
To return to the Record-Pause mode, press the STOP button.

To search at high speed:

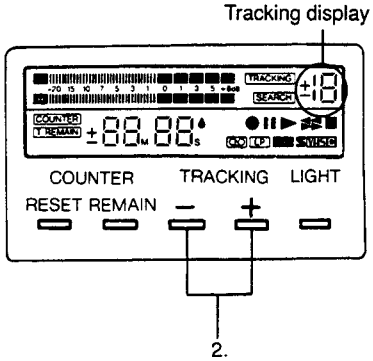
Press the REW or FF button while in the Play mode; reverse or forward search will start. To return to normal playback, press the PLAY button.

During searach, the tracking indicator displays "7". This has nothing to do with tracking, but indicates that the search speed is 7 times normal.

Notes for VTR operation

- If a cassette whose safety tab has been removed is loaded, the unit will enter the Stop mode, instead of the Record-Pause mode.
- When recording in the VHS mode on a tape previously recorded in the S-VHS mode, it is not possible to search S-VHS recordings.
- Still pictures may contain some noise or vibrate vertically. This is not due to any defect of the unit.
- During search, pictures may contain some noise, vibrate vertically, or become monochrome. This is not due to any defect of the unit.
- No audio is available during search.
- When tapes areplayed back in a place subject to excessive vibrations, colour pictures may not be obtained.

Tracking control

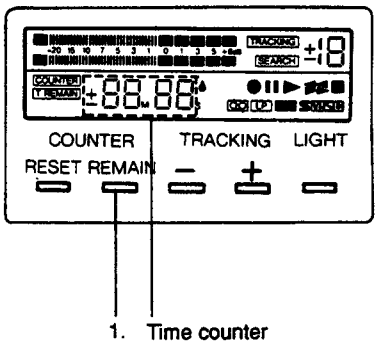


Perform tracking adjustment when the playback picture is too grainy, or contains noise.

1. Play back the tape.
2. Press the TRACKING button "+" or "–" to reduce noise while checking the playback picture.

- The tracking display shows up to +15 or down to –15.
- To reset the tracking display to +0, press both TRACKING buttons simultaneously.
- When the power is switched on the tracking display is reset to +0.

Remaining tape time display

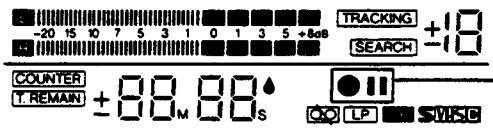


The remaining tape time can be checked on the Mode-1 status display (see page 31), or on the VTR display section.

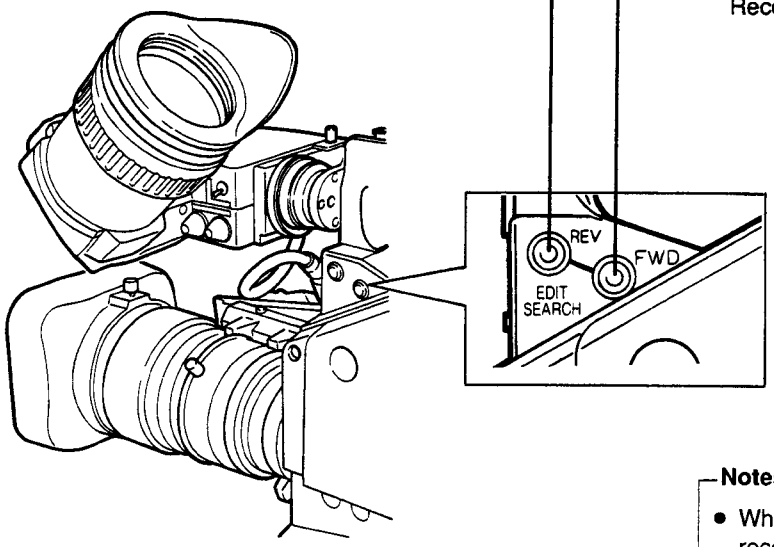
1. Press the REMAIN button during recording.
   The VTR display time counter will show the remaining time in a few seconds.

- Available indications are 30, 25, 20, 15, 10, 5, 4, 3, 2, 1, and 0 minutes.
- Press the button again to return to the ordinary elapsed time counter display.
- The remaining tape time indication is not displayed during playback.

Retake function by Edit Search



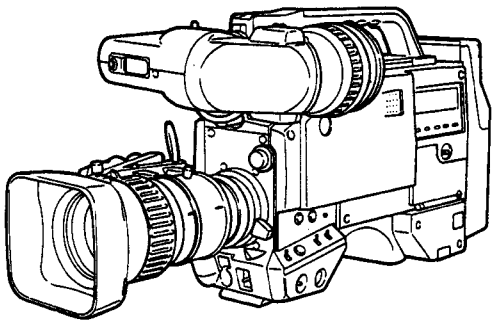
The retake function allows checking of the recorded picture without leaving the Record-Pause mode. Determine the point at which you want to start the next take while checking the search picture at normal speed in either direction.

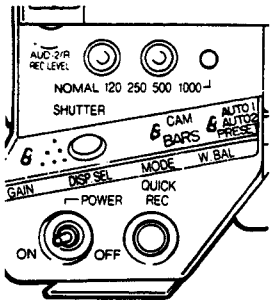

REV
FWD
EDIT
SEARCH
2. To search in the reverse direction, keep the REV button depressed. To search in the forward direction, keep the FWD button depressed. When the button is released, the Record-Pause mode will be engaged.

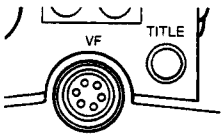
Notes for VTR operation

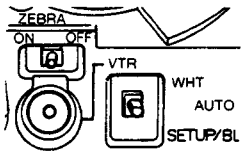
- When recording in the VHS mode on a tape previously recorded in the S-VHS mode, it is not possible to search or edit S-VHS recordings.

SPECIAL FUNCTIONS









Auto equalizer (AEQ) reference signal (provided only on the GY-X1TC)

If you are going to edit footage recorded with this unit using the JVC BR-S811 and BR-S611 S-VHS recorders, use the AEQ function to obtain better dubs.
An AEQ on/off switch is provided inside the unit. Prior to shipment, this switch is preset to ON.
When the AEQ switch is set to ON, a reference signal is recorded during the blanking period of the video signal being recorded. When a tape recorded in this way is played back on the BR-S811 and BR-S611, the AEQ circuit in these machines will perform frequency compensation according to the recorded reference signal, thereby improving the dubbing quality.

- The reference signal is recorded on line 17 during the vertical blanking period. If this is not appropriate for some reason, the reference signal recording position can be changed or the AEQ switch can be set to OFF. For more information, consult the dealer from whom you purchased this unit or a JVC dealer.

Electronic shutter

The electronic shutter mode which offers higher shutter speeds is effective when shooting fast-moving objects that may be analyzed later in playback. While the standard shutter speed is 1/50 second, the electronic shutter mode offers five speeds: 1/120, 1/250, 1/500 and 1/1000 second.

To engage the electronic shutter mode:

1. Press the 120 250 500 1000 button. The LED will light.
   Each time the button is pressed, the speed changes in the following sequence:

   1/120 ⟶ 1/250 ⟶ 1/500 ⟶ 1/1000

   The selected shutter speed will be displayed for a few seconds on the viewfinder screen.
2. To return to the normal shutter speed, press the NORMAL button. (The LED will go off.)

- The higher the shutter speed, the lower the sensitivity. Brighter lighting is necessary when using high shutter speeds. Do not use high shutter speeds in dimly lit places.
- In the auto iris mode, the iris is wider in the high speed mode than in the normal shutter mode. This also changes the depth of focus.
- When the high speed mode is used under fluorescent lighting, the picture may flicker.

Video level indication

A zebra pattern shows the portion the video level of which is about 80% to 90%. Refer to this indication when adjusting the iris manually.

ZEBRA switch ON : Indication on.
ZEBRA switch OFF : Indication off.

Title display

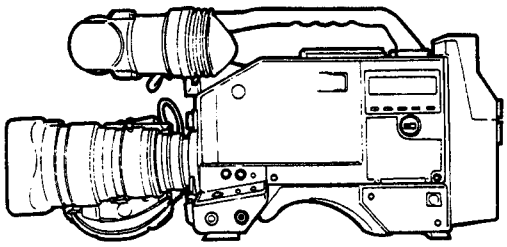
The title preset using the memory function can be recorded superimposed on the scene being shot. The title is displayed on the viewfinder screen.

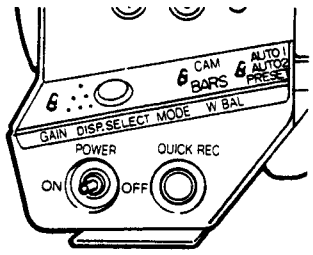
To call up the title display:

1. Press the TITLE button. The title will be displayed. (If pressed during recording, it will be recorded.)
2. Releasing the button cancels the title display.

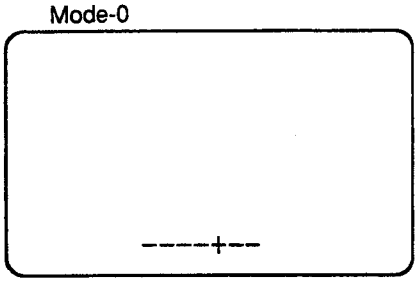
- As long as a title is on the screen, warning messages and the status display are not available. Call up the title display only when it is necessary.
- For composing titles, see page 35.
- Nothing will be displayed if a title has not been preset.

Status display

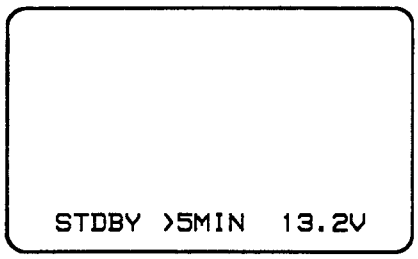




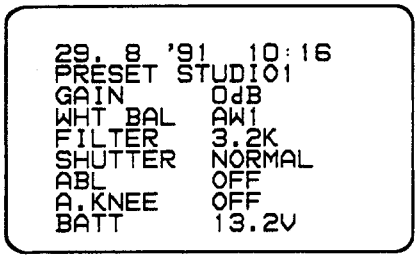
Mode-0



Mode-1



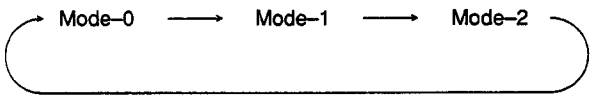
Mode-2



The status display function indicates the statuses of the camera and VTR on the viewfinder screen. Three display modes are available: Mode-0, Mode-1, and Mode-2.
Mode-0 is engaged when the power is switched on.

To select the mode:

1. Press the DISP. SEL button.
   Each time, the button is pressed, the mode changes in the following sequence:



- During tape playback, or when a title is on the screen, the status display cannot be used.

Mode-0

① The recording level of the audio track selected with the AUDIO SELECT switch (see page 27) is displayed as monaural (L + R) in 7 steps.
This indication can be defeated using the memory function. (See page 32.)

Mode-1

② The operating status of the VTR is displayed.

STDBY	: Recording standby (Record-Pause)
REC	: Recording in progress
QREC	: Quick recording in progress
QREC (blinking)	: Special mode quick recording in progress
No indication	: Playback (including search)

③ The remaining tape time is displayed in minutes.
">5MIN" is displayed until the tape reaches the point 5 minutes before the tape end, after which the time is displayed in minutes.

④ One of the following, selected by the memory function, is displayed: (See page 32.)

Battery voltage	
Camera sensitivity	: same as ⑦
Filter position	: same as ⑨
Shutter speed	: same as ⑩
White balance mode	: same as ⑧

Mode-2

The camera status, battery voltage, etc. are displayed together.

⑤ Date and time
⑥ Scene file name
(Initial indication prior to shipment is "PRESET INITIAL".)
⑦ Camera sensitivity: 0 dB, 6 dB, 9 dB, 12 dB, 18 dB, ALC
⑧ White balance mode : PRESET, AW1, AW2
AW1-F (filter-linked)
AW2-F (filter-linked)
FAW (full-time auto white)
⑨ Filter position: 3.2K (1), 5.6K (2), 5.6K + ND (3)
⑩ Shutter speed: NORMAL, 1/120, 1/250, 1/500, 1/1000
⑪ ABL (Auto black level control) ON/OFF
⑫ Auto knee ON/OFF
⑬ Battery voltage

MEMORY FUNCTION

The memory function allows the user to set the camera's functions and parameters while referrring to the menus displayed on the viewfinder screen, thereby customizing the camera according to the application.

The memory function includes the following five different functions:

1. Reading a scene file
2. Storing a scene file
3. Setting a title
4. Set up (setting the camera's functions and parameters)
5. Self-diagnostic functions

List of menus, sub-menus and parameters

- Structure of the list

Menu name (description)			
Sub-menu name (description)			
( )	Parameter name	Description	Page

( ) Display page showing parameters

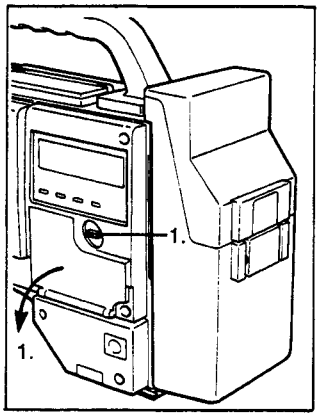
- This page number indicates the page in this instruction manual where the corresponding item is explained in detail.

- Parameters in the shaded areas can be stored on the memory card as a scene file.

1 DATA READ (Reading a scene file)			
File name to be read			33
2 DATA WRITE (Storing a scene file)			
File name to be stored			34
3 TITLE SET (Setting a title)			
1 EDIT (Composing a title)			
Title, date on/off, time on/off			35
2 CLEAR (Erasing a title)			
NO parameter.			35
4 SET UP (to check or alter the camera's functions and settings)			
1 IRIS (Auto iris setting)			
	1 IRIS LEVEL	Iris level	37
	2 APB	APB function on/off	37
	3 PEAK/APL BAL	Mixing ratio of peak and average values	37
	4 IRIS AREA	Light measuring area	37
	5 IRIS SPEED	Response speed	37
	6 ALC F LIMIT	Video ALC operation start point	37
2 PROCESS (Video signal setting)			
(1/2)	1 MASTER BLACK	Reference black level	38
	2 AUTO KNEE	Auto knee on/off	38
	3 KNEE LEVEL	Manual knee level	38
	4 ABL	Auto black level control on/off	38
	5 ABL LEVEL	ABL control level	38
	6 CONTOUR	Contour correction on/off	38
	7 CONTOUR LVL	Contour correction level	38
(2/2)	8 GAMMA	Gamma correction on/off	39
	9 GAMMA LEVEL	Gamma correction level	39

3 OPERATION (Operating modes setting)			
(1/2)	1 GAIN	GAIN switch setting combinations	39
	2 AW FIL	Filter-linked auto white balance	39
	3 FULL TIME AW	Full-time auto white balance on/off	40
	4 AUDIO IND	Audio level indicator on/off	40
	5 VOICE ALARM	Audible warning messages on/off	40
	6 VTR SW	VTR start/stop trigger mode	40
	7 STATUS 1	Mode-1 status display setting	40
(2/2)	8 AUTO SET	AUTO switch function setting	40
	9 QREC MODE	Quick recording special mode on/off	40
	10 BATT. END	Battery warning voltage setting	40
4 SYSTEM RESET (Initializing data) No parameter.			41
5 CLOCK ADJUST (Date and time setting)			
	1 DISPLAY STYLE	Indications setting	41
	2 CORRECT	Correction	41
5 SELF DIAGNOSTIC (Self-diagnostic functions)			
(No parameter except for 2.) • HOUR METER (Hour meter check)			42
• MEMORY (Memory check)			42
1 CARD MEMORY (Checking the memory card)			43
2 VOICE ALARM (Checking the audible warnings)			
Selecting English or Japanese			43
3 AUTO CIRCUIT (Checking the automatic circuits)			43
4 LED (Checking the LEDs)			43
5 SW I/F CHECK (Checking the switches and buttons)			44
CHAR MIX (Switching the character output from VIDEO/VTR OUT on/off)			44

Reading a scene file



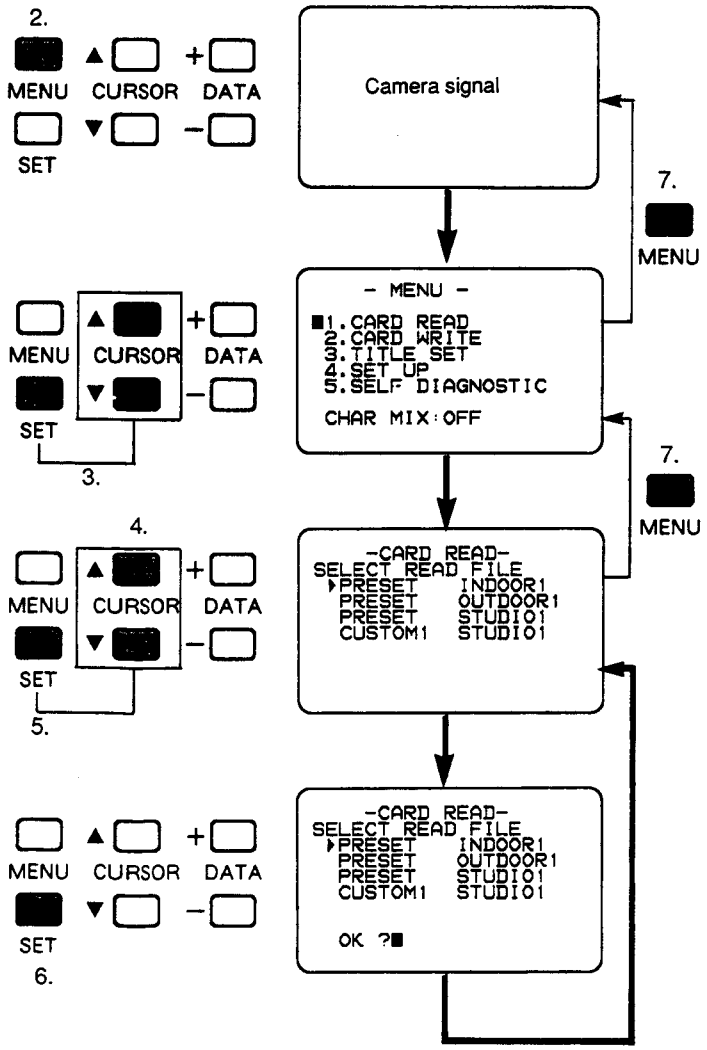
Function box

MENU CURSOR DATA

SET

Buttons to be used

When the MENU button is pressed during menu operation, the previous screen is recalled.



- Camera settings stored on a memory card are read into the camera.
- Unless a memory card is installed, the following operations are not possible.
- For the memory card, see page 45.

1. Open the function box cover by pushing the unlock lever to the rear.

2. Press the MENU button.
   The MENU is displayed on the viewfinder screen, with the cursor (white square) blinking to the left of a number.

3. Make sure that the cursor is blinking against No.1, and press the SET button.
   - If the cursor is positioned against another number, move it to No.1 by pressing either the CURSOR "▲" or "▼" button, and then press the SET button.
     The sub-menu (CARD READ) will be displayed, with the names of all scene files stored in the memory card and related comments.

4. Press either CURSOR button to move the cursor (white triangle) to the desired file.

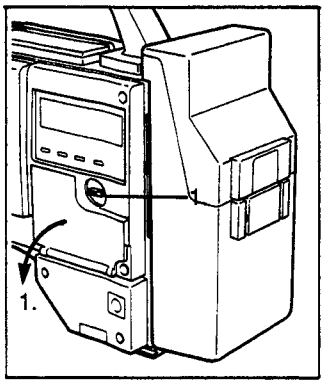
5. Press the SET button.
   "OK?" will appear at the bottom of the screen.

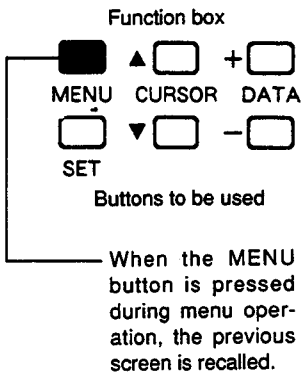
6. If you do not want to execute the command, press the MENU button. The screen will change to the sub-menu (CARD READ)
   To execute the command, press the SET button.
   The data will be read and, after showing the message "COMPLETE", the screen will change to the sub-menu (CARD READ).

7. To return to the original screen (camera signal), press the MENU button twice.

- When "CARD READ" has been executed, all the camera's "memorized" parameters will be rewritten.

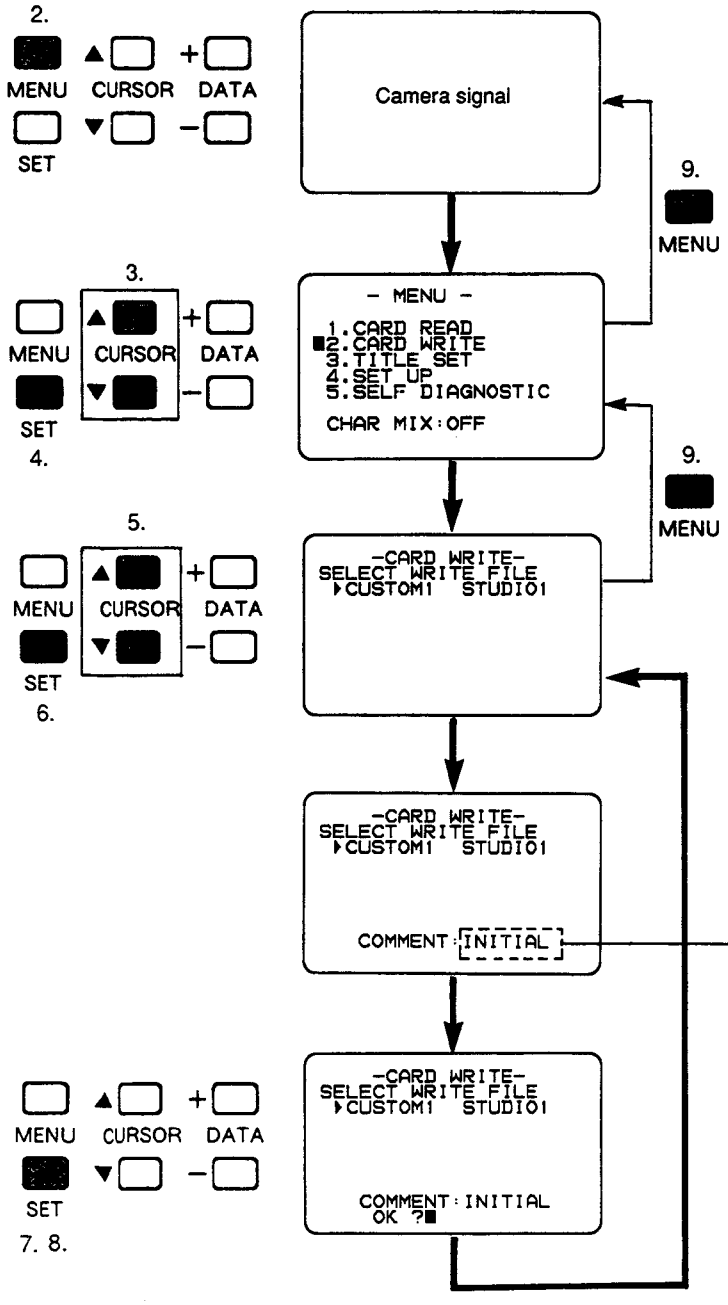
Storing a scene file



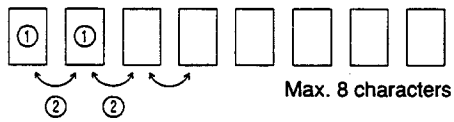


- The camera settings currently set by the memory function can be stored on the memory card.
- Unless a memory card is installed, the following operations are not possible.
- For the memory card, see page 45.

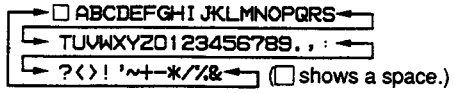
1. Open the function box cover by pushing the unlock lever to the rear.
2. Press the MENU button.
   The MENU is displayed on the viewfinder screen, with the cursor (white square) blinking to the left of a number.
3. Press the CURSOR "▲" or "▼" button so that the cursor blinks against No.2.
4. Press the SET button.
   The sub-menu (CARD WRITE) will be displayed, with the names of custom scene files stored in the memory card and related comments.
5. Move the cursor (white triangle) to the desired file with either CURSOR button.
6. Press the SET button.
   The comment of the file to which the camera is currently set will appear and blink below the comment.
   - If a comment is not preset, a white line corresponding to the size of one character appears as a cursor.
   - When the data write command is executed, this blinking comment will replace the one selected in step 5.
   - You can rewrite the comment which is blinking.



To rewrite the comment



① Change the blinking character with the DATA buttons.



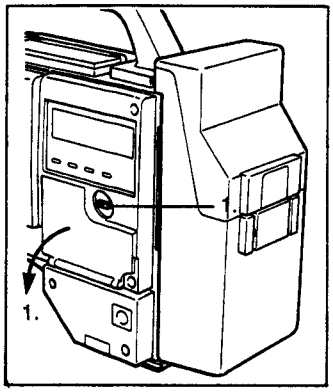
② Move the blinking position with the CURSOR buttons.
" ▲": to move to the left (<---).
" ▼": to move to the right (--->).

Repeat steps ① and ②.

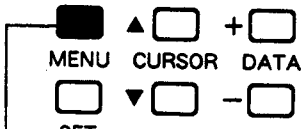
After completion, proceed to step 7.

7. Press the SET button.
   "OK?" will appear.
8. If you do not want to execute the command, press the MENU button. The sceen will change to the sub-menu (CARD WRITE).
   To execute the command, press the SET button.
   The data will be stored together with the comment and, after showing the message "COMPLETE", the screen will change to the sub-menu (CARD WRITE).
9. To return to the original screen (camera signal), press the MENU button twice.

Setting a title

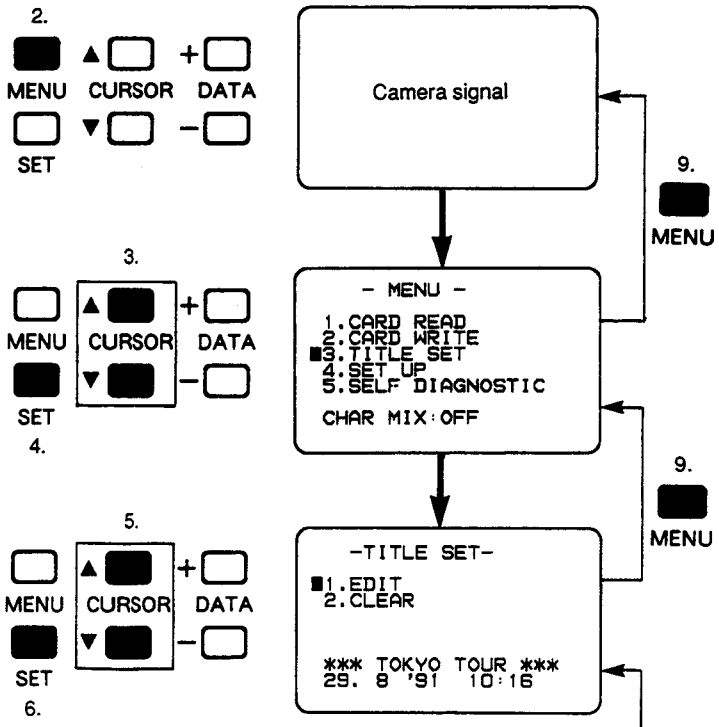


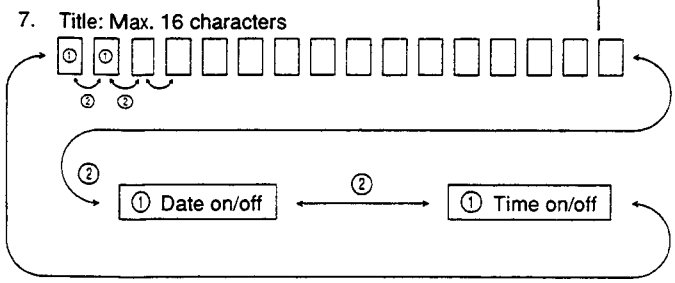
Function box

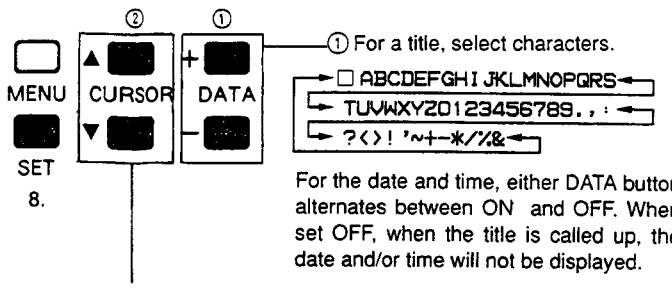


Buttons to be used

When the MENU button is pressed during menu operation, the previous screen is recalled.







For the date and time, either DATA button alternates between ON and OFF. When set OFF, when the title is called up, the date and/or time will not be displayed.

"▲": moves the cursor to the left (←)
"▼": moves the cursor to the right (→)

- The title composed here can be recorded together with the camera signal by pressing the TITLE button on the front of the camera. (See page 30.)

Composing a title

Compose a title and determine whether it should be displayed with or without the date, and with or without the time.

1. Open the function box cover by pushing the unlock lever to the rear.
2. Press the MENU button.
   The MENU is displayed on the viewfinder screen, with the cursor (white square) blinking to the left of a number.
3. Press the CURSOR "▲" or "▼" button so that the cursor blinks against No. 3.
4. Press the SET button.
   The sub-menu TITLE SET will be displayed.
5. Move the cursor to No. 1 with the CURSOR buttons.
6. Press the SET button.
   The currently set title will be displayed at the bottom of the screen, with the first character blinking.
7. The blinking character can be changed.
   ① Change the blinking character with the DATA buttons.
   ② Move the blinking position with the CURSOR buttons. Repeat steps ① and ②.
8. After composing the title, and determining date on/off and time on/off, press the SET button.
   The title will be stored.
9. To return to the original screen (camera signal), press the MENU button twice.

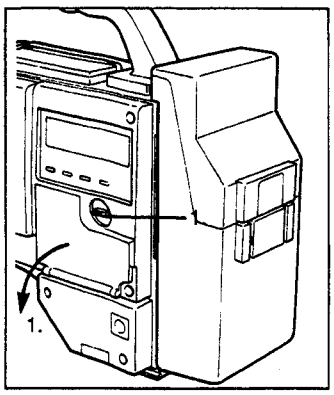
- The date display style can be changed. (See page 41.)
- To correct the date and time, see page 41.

Erasing a title

- Follow steps 1 through 4 in "Composing a title"

5. Move the cursor to No. 2 (CLEAR) with the CURSOR buttons.
6. Press the SET button.
   The title will be cleared. If you do not want to execute the command, press the MENU button instead of the SET button.
7. To return to the original screen (camera signal), press the MENU button twice.

SET UP (Setting camera's functions and parameters)



Function box

MENU CURSOR DATA

SET

Buttons to be used

By pressing the MENU button during menu operation, the previous screen is recalled.

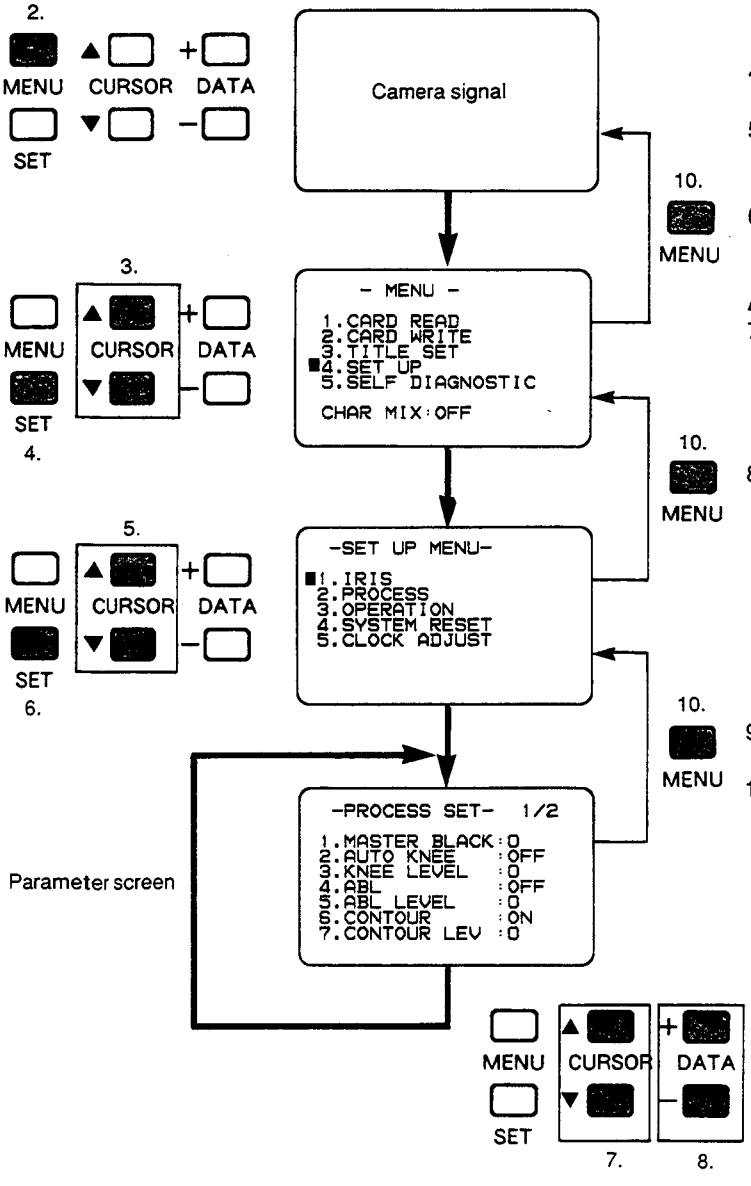
- Most of the data set using the SET UP MENU can be stored on the memory card.
- Setting is not possible when a title is on the screen, or during tape playback or recording.

Selection of menus and sub-menus

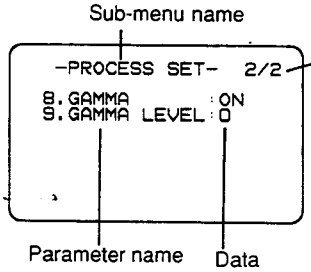
1. Open the function box cover by pushing the unlock lever to the rear.
2. Press the MENU button.
   The MENU is displayed on the viewfinder screen, with the cursor (white square) blinking to the left of a number.
3. Press the CURSOR "▲" or "▼" button so that the cursor blinks against No.4
4. Press the SET button.
5. Move the cursor to the desired item with the CURSOR "▲" or "▼" button.
6. Press the SET button.
   The parameter screen will be called up.

Altering parameter data

7. Select the parameter item with the CURSOR buttons.
   - The data of the selected parameter item will blink.
   - With some menus, there are two parameter pages. (See the figure.)
8. Set the data by pressing the DATA buttons.
   The DATA button functions in the following three ways according to the selected parameter:
   - Changes data in steps (eg. 0 dB → 9 dB → 18 dB).
   - Changes the analog value of the data (eg. –99 to +99).
     + : Increase
     – : Decrease
   - Switches on or off.
9. Repeat steps 7 and 8 as required.
10. After completion of all settings, press the MENU button three times to return to the original screen (camera signal).



Structure of parameter screen



Page (1/2 or 2/2 shows the first or second page of the same parameter item.) Press either the CURSOR "▲" or "▼" button a couple of times to go to the next or previous page.

Auto iris setting

- Master menu (MENU)
  4 SET UP
- Sub-menu
  (SET UP MENU)
  1 IRIS

- Parameter screen

```
-IRIS SET-
1.IRIS LEVEL   : 0
2.APB          : ON
3.PEAK/APL BAL : 50
4.IRIS AREA    : 70%
5.IRIS SPEED   : 0
6.ALC F LIMIT  :OPEN
```

- For the procedure of selecting menus, see page 36.
- For the procedure of altering parameter data, see page 36.
- ◯ indicates data preset prior to shipment.

• Iris level

Parameter name	Data	
1.IRIS LEVEL	-99 to 99	0

The relationship between brightness and aperture in the auto iris mode can be set. The greater the value, the wider the aperture for a given brightness.

• APB function on/off

Parameter name	Data	
2.APB	ON·OFF	OFF

The APB function (see page 22) can be switched on or off.
ON: APB on. Automatically sets the mixing ratio of the detected peak and average levels.
OFF: APB off. The mixing ratio is determined by parameter 3 (PEAK/APL BAL).

• Mixing ratio of peak and average values

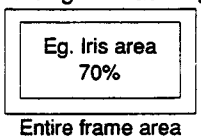
Parameter name	Data	
3.PEAK/APL BAL.	0 to 100	30

When parameter 2 (APB) is OFF, the mixing ratio of the detected peak and average levels for auto iris operation can be set.
The greater the value, the greater the weight of the peak level. "0" for average level only, and "100" for peak level only.

• Light measuring area

Parameter name	Data	
4.IRIS AREA	50%·60%·70%	70%

The light measuring area for auto iris operation can be set. The figure shows its percentage of the entire frame area.
When this parameter is selected, the section of the screen corresponding to the light measuring area becomes lighter.



• Response speed

Parameter name	Data	
5.IRIS SPEED	-15 to 15	0

The auto iris response speed can be set. The greater the value, the higher the speed. Excessively high speeds may result in unstable operation.

• Video ALC operation start point

Parameter name	Data	
6.ALC F LIMIT	F5.6·F4.0·F2.8 F2.0·OPEN	F2.0

The lens aperture at which the Video ALC (see page 22) starts operating can be set.

Important note:

If the power is switched off during memory setting operations, the data being set will not be stored in the memory. This means all parameters will require re-setting. Be sure to return to the camera signal screen before switching off the power.

Video signal setting

- Master menu (MENU)
  4 SET UP
- Sub-menu
  (SET UP MENU)
  2 PROCESS

- Parameter screen (1/2)

```
-PROCESS SET-  1/2
1.MASTER BLACK :0
2.AUTO KNEE    :OFF
3.KNEE LEVEL   :0
4.ABL          :OFF
5.ABL LEVEL    :0
6.CONTOUR      :ON
7.CONTOUR LVL  :0
```

(2/2)

```
-PROCESS SET-  2/2
8.GAMMA        :ON
9.GAMMA LEVEL  :0
```

- For the procedure of selecting menus, see page 36.
- For the procedure of altering parameter data, see page 36.
- ◯ indicates data preset prior to shipment.

- **Reference black level (Master black)**

Parameter name	Data	
1.MASTER BLACK	-99 to 99	0

The master black level can be set.

- **Auto knee on/off**

Parameter name	Data	
2.AUTO KNEE	ON·OFF	ON

When incident light exceeds 100%, the knee function compresses the portion of the video signal which corresponds to the over-lit section. The auto knee function varies the point at which signal compression starts according to the amount of incident light, ensuring good contrast even in bright areas of the picture.
The AUTO KNEE parameter switches the auto knee function on or off.
ON: Auto knee on. The compression start point is internaly determined.
OFF: Auto knee off. Signal compression always starts at a fixed point.

- **Manual knee level**

Parameter name	Data	
3.KNEE LEVEL	-99 to 99	0

When parameter 2 (AUTO KNEE) is OFF, the point at which the video signal is compressed can be fine-adjusted. The greater the value, the higher the point with respect to the amount of incident light, in which case it is more difficult to obtain good contrast in bright areas of the picture.)

- **Auto black level control on/off**

Parameter name	Data	
4.ABL	ON·OFF	ON

The ABL function can be switched on or off.
When the luminance level is high over the entire picture in outdoor shooting, the pictures contrast can be improved by lowering the black level slightly. The ABL performs this adjustment automatically.
ON: ABL on. Can be fine-adjusted by parameter 5 .
OFF: ABL off.

- **ABL control level**

Parameter name	Data	
5.ABL LEVEL	-1·0·1	0

The automatically controlled black level can be fine-adjusted. The greater the value, the lower the black level for a given brightness, therefore the better the contrast.

- **Contour correction on/off**

Parameter name	Data	
6.CONTOUR	ON·OFF	ON

Contour correction boosts the rising and falling portions of the video signal to produce sharper images.
ON: Contour correction on. Can be fine-adjusted by parameter 7.
OFF: Contour correction off. Original video signal.

- **Contour correction level**

Parameter name	Data	
7.CONTOUR LVL	-99 to 99	0

The amount of contour correction can be set. The greater the value, the more the edges of images are emphasized, producing a garish picture.

Important note:

If the power is switched off during memory setting operations, the data being set will not be stored in the memory. This means all parameters will require re-setting. Be sure to return to the camera signal screen before switching off the power.

- **Gamma correction on/off**

Parameter name	Data	
8. GAMMA	ON · OFF	(ON)

ON: Gamma correction on. (Gamma ratio 0.45, can be fine-adjusted by parameter 9.)
OFF: Gamma correction off. (Gamma ratio 1)

- **Gamma correction level**

Parameter name	Data	
9. GAMMA LEVEL	-99 to 99	(0)

The gamma correction level can be set. The greater the value, the greater the amount of correction. For accurate adjustment, a waveform monitor, oscilloscope, or a reference chart is necessary. Normally do not adjust this parameter.

- For accurate adjustment, consult an authorized JVC Service agent.

Operation modes setting

- Master menu (MENU)
  4 SET UP
- Sub-menu
  (SET UP MENU)
  3 OPERATION

- Parameter screen (1/2)

```
-OPERATION SET- 1/2
1.GAIN      :0:6:12
2.AW-FIL    :1OFF 2OFF
3.FULLTIME AW: OFF
4.AUDIO IND  : ON
5.VOICE ALARM: ON
6.VTR SW    :N-LOCKING
7.STATUS1    : BATT
```

(2/2)

```
-OPERATION SET- 2/2
8.AUTO SET    :NORM
9.QREC MODE   : 1
10.BATT END   :11.5V
```

- For the procedure of selecting menus, see page 36.
- For the procedure of altering parameter data, see page 36.
- ◯ indicates data preset prior to shipment.

- **GAIN switch setting combinations**

Parameter name	Data	
1. GAIN	0:9:18 · 0:6:12 0:6:ALC 6:0:12 · 9:0:18	(0:6:12)

Sensitivities available in the three switch positions can be selected from among five combinations.

GAIN switch position	Selected data and sensitivity				
	0:9:18	0:6:12	0:6:ALC	6:0:12	9:0:18
•	0 dB	0 dB	0 dB	6 dB	9 dB
••	9 dB	6 dB	6 dB	0 dB	0 dB
•••	18 dB	12 dB	ALC	12 dB	18 dB

- **Filter-linked auto white balance**

Parameter name	Data	
2. AW-FIL	1OFF 2OFF 1ON 2OFF 1ON 2ON	(1ON 2OFF)

The filter-linked auto white balance mode can be switched on or off.

White balance mode	Selected data and mode on/off		
	1OFF 2OFF	1ON 2OFF	1ON 2ON
AUTO 1	Off	On	On
AUTO 2	Off	Off	On

Important note:

If the power is switched off during memory setting operations, the data being set will not be stored in the memory. This means all parameters will require re-setting. Be sure to return to the camera signal screen before switching off the power.

- **Full-time auto white balance on/off**

Parameter name	Data	
3.FULLTIME AW	ON·OFF	OFF

This parameter determines whether the full-time auto white balance mode is engaged or not when the W. BAL switch is set to AUTO 2.
ON: Full-time auto white balance in the AUTO 2 position.
OFF: Normal auto white balance.

- **Audio level indicator on/off**

Parameter name	Data	
4.AUDIO IND	ON·OFF	ON

This parameter determines whether the audio level indicator is to be displayed or not on the Mode-0 status display screen.
ON: Indicator on.
OFF: No indication.

- **Audible warning messages on/off**

Parameter name	Data	
5.VOICE ALARM	ON·OFF	ON

The audible warning messages can be defeated by this parameter.
ON: Messages on.
OFF: Messages off.

- **VTR start/stop trigger mode**

Parameter name	Data	
6.VTR SW	N-LOCKING LOCKING	N-LOCKING

Set this parameter according to the type of the VTR start/stop trigger on the lens.
N-LOCKING: Set this data for lenses with a momentary-type trigger (which stays ON only while it is being pressed, and is OFF when released.)
Applicable lense: HZ-714

LOCKING: Set this data for lenses with an alternating-type trigger (which goes ON when pressed, and OFF when pressed again.)
Applicable lense: HZ-713

- When using the HZ-713, an optional connector conversion adapter is necessary.

- **Mode-1 status display setting**

Parameter name	Data	
7.STATUS1	BATT·GAIN·FILTER SHUT·WB MODE	BATT

The item to be displayed on the Mode-1 status display screen can be selected.
BATT : Battey voltage
GAIN : Camera sensitivity
FILTER : Filter position
SHUT : Shutter speed
WB MODE : White balance mode

- **AUTO switch function setting**

Parameter name	Data	
8.AUTO SET	NORM·AB	NORM

This parameter determines the operation of the AUTO switch when it is pushed toward SETUP/BLK.
NORM: Automatic adjustment of black balance, white balance and black balance in succession.
AB : Automatic adjustment of black balance only.

- **Quick recording special mode on/off**

Parameter name	Data	
9.QREC MODE	1·2	1

1: Normal mode
2: Special mode (see page 26)

- **Battery warning voltage setting**

Parameter name	Data	
10.BATT END	11.0V to 12.0V	11.0

The voltage at which the battery warning starts operating.

Important note:

If the power is switched off during memory setting operations, the data being set will not be stored in the memory. This means all parameters will require re-setting. Be sure to return to the camera signal screen before switching off the power.

Initializing data

- Master menu (MENU)
  4 SET UP
- Sub-menu
  (SET UP MENU)
  4 SYSTEM RESET

- Parameter screen

```
  -SYSTEM RESET-
INITIALIZE CAMERA
CONTROL DATA
OK ?
```

• For the procedure of selecting menus, see page 36.

When this menu is selected, the message shown above appears.

- If you do not want to initialize data, press the MENU button. The screen will return to the sub-menu (SET UP MENU).
- If you want to initialize data, press the SET button. After completion of initialization, a message "COMPLETE" will appear.

- After performing initialization, all the parameters set using the memory function will be reset to the data preset prior to shipment. Be very careful when using this function.
- The following data is protected and will not be reset by initialization:
  Display style of date and time and correction (See below).
  Language of audible warning messages (English/ Japanese) (See page 43)
- After initialization has been executed, the scene file name on the Mode-2 status display will change to "PRESET INITIAL".

Date and time setting

- Master menu (MENU)
  4 SET UP
- Sub-menu
  (SET UP MENU)
  5 CLOCK ADJUST

- Parameter screen

```
  -TIME CORRECT-
1.DISPLAY STYLE:DMY
2.CORRECT

 29. 8 '91  10:16
```

Currently set date and time

• For the procedure of selecting menus, see page 36.

• Indications setting

Parameter name	Data
1.DISPLAY STYLE	MDY·YMD·DMY (DMY)

The method of displaying the date in titles or on the Mode-2 status display screen can be selected.
MDY: In the order month, day and year. e.g. 8.29 '91
YMD: In the order year, month and day. e.g. '91 8.29
DMY: In the order day, month and year. e.g. 29.8 '91

• Correction

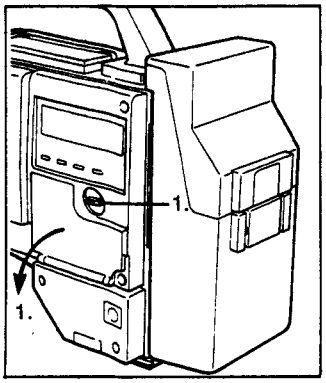
Parameter name	Data
2.CORRECT	

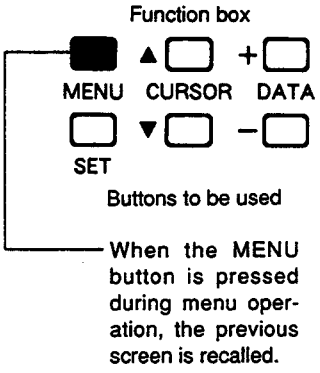
When this parameter is selected, the cursor (white square) appears at the parameter number and blinks.

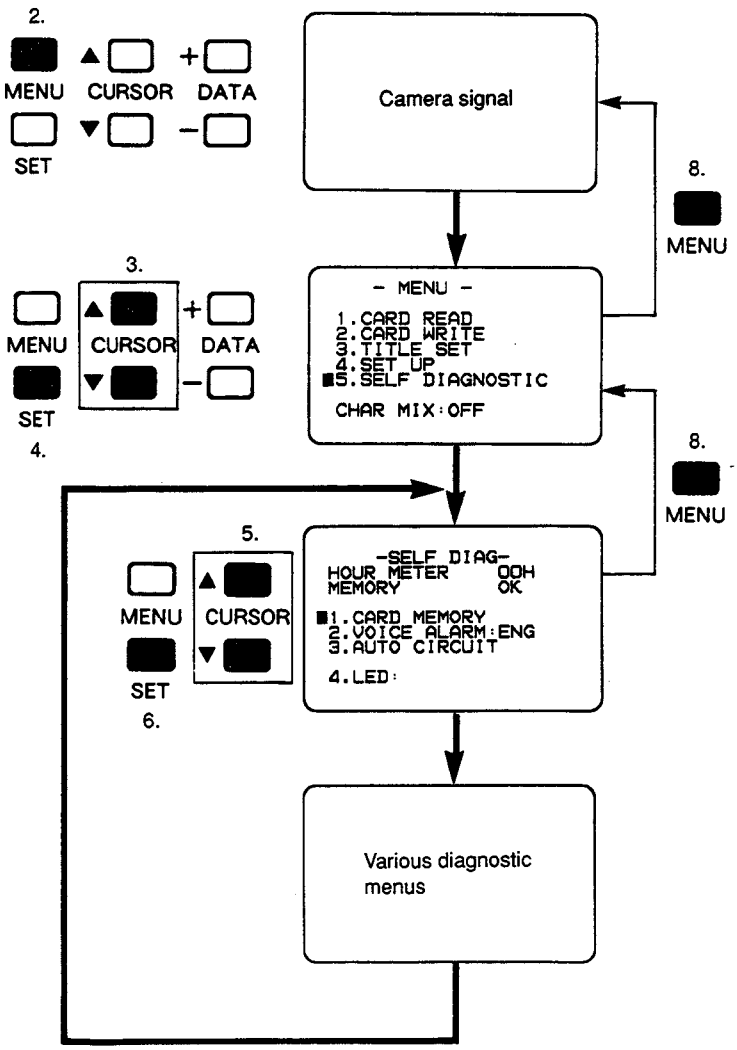
Correction procedure

1. Press the SET button.
2. Correct the blinking digits with the DATA buttons.
   The sequence of the date and time indication differs depending on the selected display style.
   MDY: Month, day, year, hour, minute
   YMD: Year, month, day, hour, minute
   DMY: Day, month, year, hour, minute
3. Move the blinking position with the CURSOR buttons.
   "▲" button: to move in the direction of right.
   "▼" button: to move in the direction of left.
4. Repeat steps 2 and 3 as required.
5. After setting all the items (year, month, day, hour, minute), press the SET button.

Self-diagnostic functions







- The self-diagnostic functions let you check whether the camera's circuits are operating properly.

Selection of the menu and sub-menu

1. Open the function box cover by pushing the unlock lever to the rear.
2. Press the MENU button.
   The MENU is displayed on the viewfinder screen, with the cursor (white square) blinking to the left of a number.
3. Press the CURSOR "▲" or "▼" button so that the cursor blinks against No. 5.
4. Press the SET button.
   The sub-menu SELF DIAG will be displayed.
5. Move the cursor to the desired item with the CURSOR buttons.
6. Press the SET button.
   The selected mode will be engaged. (See the next page.)
7. Repeat steps 5 and 6 as required.
8. To return to the original screen (camera signal), press the MENU button twice.

Checking the hour meter and the memory

These two items can be checked on the SELF DIAG screen. The sub-menu need not be called up.

- HOUR METER
  Indicates the total running hours of the VTR in steps of 10 hours. Use this as a reference for scheduling maintenance.
- MEMORY
  Indicates the condition of the built-in EPROM (program memory): "OK" when it is normal, and "NG" if there is a failure. If "NG" appears, consult an authorized JVC Service agent.

Checking the memory card

- Unless a memory card is installed, this function cannot be used.
- Call up the SELF DIAG menu. (Steps 1 through 4 on the previous page.)

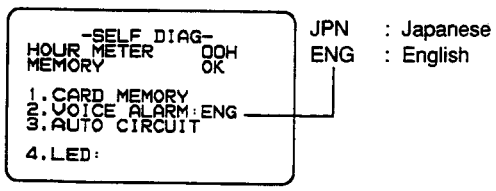
1. Select 1. CARD MEMORY.
   (Steps 5 and 6 on the previous page.)
2. Check the message.
   OK : The memory card is normal.
   NG : The memory card is defective.
3. The screen will return to the sub-menu automatically.

If "NG" is displayed, check again after making sure that the memory card is installed correctly. If it fails again, consult an authorized JVC Service agent.

Checking the audible warnings

- Call up the SELF DIAG menu. (Steps 1 through 4 on the previous page.)

1. Select 2. VOICE ALARM.
   (Steps 5 and 6 on the previous page.)
2. Voice messages will be output from the monitor speaker, repeatedly in the order: "VTR warning.", "End of tape." and "Low battery."
   - By pressing either DATA button in this status, the language alternates between Japanese and English.
   - The language selected can also be checked on the screen.



3. Press the MENU button to return to the sub-menu.

Checking the automatic circuits

- The white and black balance adjustment circuits can be checked.
- Call up the SELF DIAG menu. (Steps 1 through 4 on the previous page.)

1. Shoot a black and white object.
2. Select 3. AUTO CIRCUIT.
   (Steps 5 and 6 on the previous page.)
   The diagnostic process will start automatically. It will take about 1.5 minutes for it to be completed. After completion, the screen will return to the sub-menu automatically.
   - The diagnostic process includes 5 steps. These steps will be followed in sequence. After each step, a message indicating whether each item is normal or defective will appear and it will proceed to the next step.
   - Possible messages are as follows:
     AW R OK/NG (R channel auto white is normal/defective)
     AW B OK/NG (B channel auto white is normal/defective)
     AB R OK/NG (R channel auto black is normal/defective)
     AB G OK/NG (G channel auto black is normal/defective)
     AB B OK/NG (B channel auto black is normal/defective)

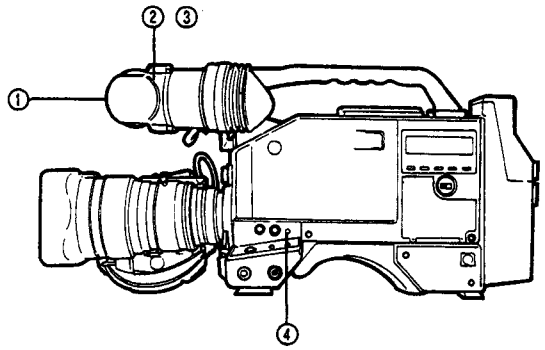
- If this checking is performed while a coloured object is being shot, AW R NG and AW B NG may appear on the screen. Be careful.
- If these messages are displayed, take a note and consult an authorized JVC Service agent.

- To stop the diagnostic process, press the MENU button. The screen will return to the sub-menu.

Checking the LEDs

- Call up the SELF DIAG menu. (Steps 1 through 4 on the previous page.)

1. Select 4. LED.
   (Steps 5 and 6 on the previous page.)
   "ALL ON" will be displayed.
2. Check the following points:
   ① Whether the tally is on.
   (The TALLY switch of the viewfinder must be set to ON.)
   ② Whether the BATT indicator (red) inside the eyepiece is on.
   ③ Whether the REC/ALARM indicator (green) inside the eyepiece is on.
   ④ Whether the SHUTTER indicator is on.



3. Press the MENU button to return to the sub-menu.

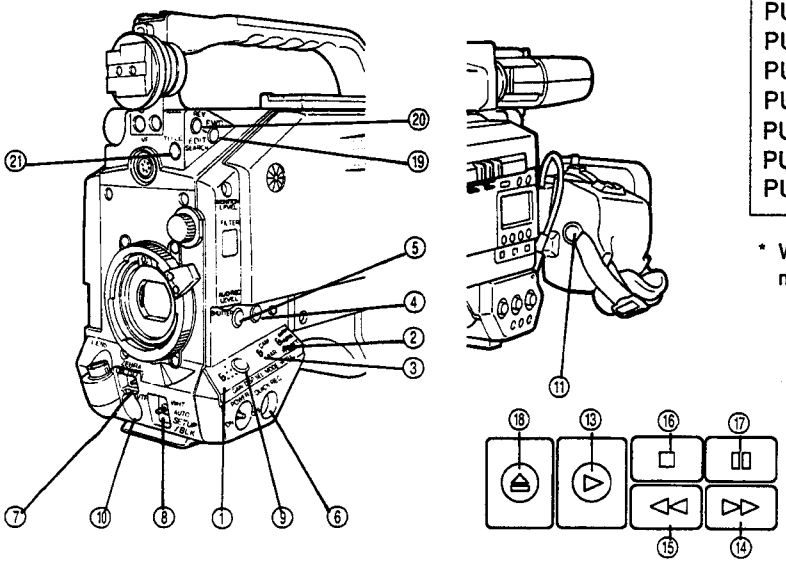
If any indicator fails to light, consult an authorized JVC Service agent.

Checking the switches and buttons

- Call up the SELF DIAG menu. (Steps 1 through 4 on page 42.)

1. Select 5. SW I/F CHECK.
   (Steps 5 and 6 on page 42.)
2. Operate the switches and buttons according to the messages.
   - If you operate an incorrect switch or button, "NG" will appear.
   - When you operate the correct switch or button, "OK" will appear. After "OK", the next item will be selected automatically. After completion of all items, the screen will return to the sub-menu automatically.
   - If you want to stop this checking midway, press the MENU button. The screen will change to the sub-menu.
   - If you want to skip some items, press the SET button.

If "NG" appears when the correct switch or button is operated, consult a JVC Service agent.



List of messages and operations

Messages (in sequence)	Switch position	Operation
SELECT GAIN ●	*①	●
SELECT GAIN ●●	*①	●●
SELECT GAIN ●●●	*①	●●●
SELECT WB: AUTO1	*②	AUTO1
SELECT WB: AUTO2	*②	AUTO2
SELECT WB: PRESET	*②	PRESET
SELECT MODE: BARS	*③	BARS
SELECT MODE: CAM	*③	CAM
PUSH SHUTTER: ON	④	Push
PUSH SHUTTER: NOR	⑤	Push
PUSH QREC	⑥	Push
SELECT ZEBRA: ON	*⑦	ON
SELECT ZEBRA: OFF	*⑦	OFF
PUSH AUTO SET	⑧	Push down
PUSH AUTO WHITE	⑧	Push up
PUSH DISP SELECT	⑨	Push
PUSH VTR TRIG	⑩	Push
PUSH LENS VTR	⑪	Push
PUSH PLAY	⑬	Push
PUSH FF	⑭	Push
PUSH REW	⑮	Push
PUSH STOP	⑯	Push
PUSH STILL	⑰	Push
PUSH EJECT	⑱	Push
PUSH EDIT FWD	⑲	Push
PUSH EDIT REV	⑳	Push
PUSH TITLE	㉑	Push

* With some switch settings, messages may not appear or the order may be different.

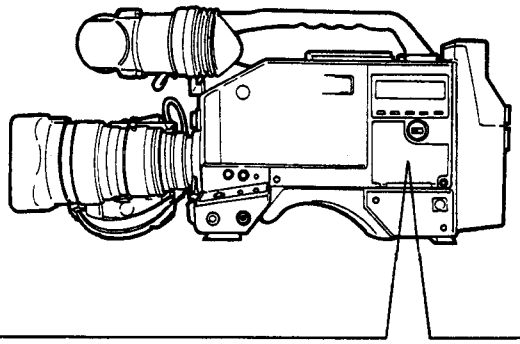
Switching the character output from VIDEO/VTR OUT on/off

It is possible to output the character display on the viewfinder screen (status display, memory function menus, etc.) from the VIDEO OUT connector together with the camera signal. The character display is also mixed with the EE signal from the VTR OUT connector.

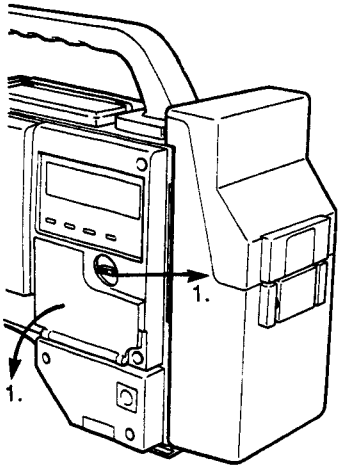
1. Open the function box lid.
2. Press the MENU button.
3. Press the CURSOR "▲" button.
4. Press the DATA "+" button.
5. Press the MENU button. The screen will return to the original (camera signal).

- To cancel this mode, follow steps 1 through 5.
- When the power is switched on, this setting is cancelled automatically.
- When recording is started, this mode is cancelled automatically.

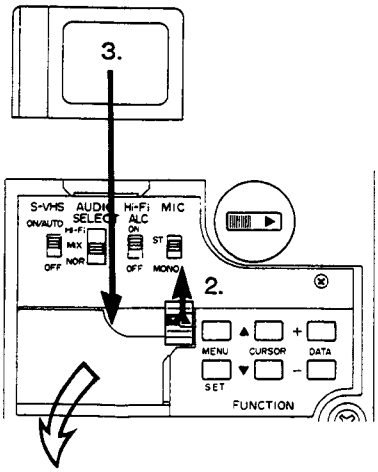
ADVANCED MEMORY SYSTEM (AMS)



Installing a memory card



1. Open the function box cover by pushing the unlock lever to the rear.



2. Push up the memory card eject lever. The compartment will open.
3. Install a memory card with its terminals towards the camera.

Removing the memory card
After opening the compartment as described in steps 1 and 2, remove the memory card.

The AMS system allows camera settings to be retained as scene files on a memory card so that they can be recalled whenever necessary.

If you keep a number of files according to shooting purposes, you will be able to respond promptly to a variety of applications.

Scene files
A scene file refers to a set of data consisting of camera settings and adjustments preset by the memory function. Each individual data item in the scene file is referred to as a parameter.
There are two types of scene files: preset scene files in which the parameters are preset according to shooting conditions, and custom files into which the user can write his own settings of parameters.

- For the list of the parameters contained in scene files, refer to the next page.
- With some parameters, data is not compatible, even between two GY-X1 units.

To make a custom scene file:
The parameters data in the preset scene files can be changed by the user, and the resulting parameter settings can be stored as a custom scene file.

① Read the preset scene file which seems closest to the intended shooting application.
② Change the parameters as required.
③ Store the rewritten file as a custom scene file.

- The rewritten file cannot be stored as a preset scene file.
- For reading and storing scene files, see pages 33 and 34. For changing parameters data, see page 36.

Provided memory card
The provided memory card contains the following four scene files:

① PRESET INDOOR
② PRESET OUTDOOR
③ PRESET STUDIO1
④ CUSTOM1

Custom scene file ④ hold data corresponding to the initial settings preset prior to shipment. This can be rewritten by the user.

Preset scene files

The parameter data of the preset scene files are shown here. Take advantage of these when making custom scene files.

- Parameter data may be changed to improve response.
- With parameters indicated by [▭], data is not compatible, even between two GY-X1 units. Therefore, reading a custom scene file from a memory card preset by a different unit will not guarantee the same effects.

- Structure of the list

Sub-menu name			
	Parameter name	Description	Data

- For more details of parameters, refer to "MEMORY FUNCTION" on page 32.

PRESET INDOOR

Settings suitable for indoor shooting.

IRIS (Auto iris setting)			
	1 IRIS LEVEL	Iris level	0
	2 APB	APB function on/off	ON
	3 PEAK/APL BAL	Mixing ratio of peak and average values	30
	4 IRIS AREA	Light measuring area	50%
	5 IRIS SPEED	Response speed	0
	6 ALC F LIMIT	Video ALC operation start point	F2.0
PROCESS (Video signal setting)			
(1/2)	1 MASTER BLACK	Reference black level	0
	2 AUTO KNEE	Auto knee on/off	ON
	3 KNEE LEVEL	Manual knee level	0
	4 ABL	Auto black level control on/off	ON
	5 ABL LEVEL	ABL control level	0
	6 CONTOUR	Contour correction on/off	ON
	7 CONTOUR LVL	Contour correction level	20
(2/2)	8 GAMMA	Gamma correction on/off	ON
	9 GAMMA LEVEL	Gamma correction level	0
OPERATION (Operating modes setting)			
(1/2)	1 GAIN	GAIN switch setting combinations	0, 6,12
	2 AW FIL	Filter-linked auto white balance	1 ON 2 OFF
	3 FULL TIME AW	Full-time auto white balance on/off	OFF
	4 AUDIO IND	Audio level indicator on/off	ON
	5 VOICE ALARM	Audible warning messages on/off	ON
	6 VTR SW	VTR start/stop trigger mode	N-LOCKING
	7 STATUS 1	Mode-1 status display setting	BATT
	8 AUTO SET	AUTO switch functions setting	NORM
(2/2)	9 QREC MODE	Quick recording special mode on/off	1
	10 BATT END	Battery warning voltage setting	11.0

PRESET STUDIO 1

Settings suitable for studio shooting.

IRIS (Auto iris setting)			
	1 IRIS LEVEL	Iris level	0
	2 APB	APB function on/off	OFF
	3 PEAK/APL BAL	Mixing ratio of peak and average values	30
	4 IRIS AREA	Light measuring area	70%
	5 IRIS SPEED	Response speed	0
	6 ALC F LIMIT	Video ALC operation start point	F2.0
PROCESS (Video signal setting)			
(1/2)	1 MASTER BLACK	Reference black level	0
	2 AUTO KNEE	Auto knee on/off	OFF
	3 KNEE LEVEL	Manual knee level	0
	4 ABL	Auto black level control on/off	OFF
	5 ABL LEVEL	ABL control level	0
	6 CONTOUR	Contour correction on/off	ON
	7 CONTOUR LVL	Contour correction level	0
(2/2)	8 GAMMA	Gamma correction on/off	ON
	9 GAMMA LEVEL	Gamma correction level	0
OPERATION (Operating modes setting)			
(1/2)	1 GAIN	GAIN switch setting combinations	0, 6,12
	2 AW FIL	Filter-linked auto white balance	1 ON 2 OFF
	3 FULL TIME AW	Full-time auto white balance on/off	OFF
	4 AUDIO IND	Audio level indicator on/off	OFF
	5 VOICE ALARM	Audible warning messages on/off	ON
	6 VTR SW	VTR start/stop trigger mode	N-LOCKING
	7 STATUS 1	Mode-1 status display setting	GAIN
	8 AUTO SET	AUTO switch functions setting	NORM
(2/2)	9 QREC MODE	Quick recording special mode on/off	1
	10 BATT END	Battery warning voltage setting	11.0

PRESET OUTDOOR

Settings suitable for outdoor shooting.

IRIS (Auto iris setting)			
	1 IRIS LEVEL	Iris level	0
	2 APB	APB function on/off	ON
	3 PEAK/APL BAL	Mixing ratio of peak and average values	30
	4 IRIS AREA	Light measuring area	50%
	5 IRIS SPEED	Response speed	0
	6 ALC F LIMIT	Video ALC operation start point	F2.0
PROCESS (Video signal setting)			
(1/2)	1 MASTER BLACK	Reference black level	0
	2 AUTO KNEE	Auto knee on/off	ON
	3 KNEE LEVEL	Manual knee level	0
	4 ABL	Auto black level control on/off	ON
	5 ABL LEVEL	ABL control level	1
	6 CONTOUR	Contour correction on/off	ON
	7 CONTOUR LVL	Contour correction level	40
(2/2)	8 GAMMA	Gamma correction on/off	ON
	9 GAMMA LEVEL	Gamma correction level	0
OPERATION (Operating modes setting)			
(1/2)	1 GAIN	GAIN switch setting combinations	0, 6,12
	2 AW FIL	Filter-linked auto white balance	1 ON 2 OFF
	3 FULL TIME AW	Full-time auto white balance on/off	OFF
	4 AUDIO IND	Audio level indicator on/off	ON
	5 VOICE ALARM	Audible warning messages on/off	ON
	6 VTR SW	VTR start/stop trigger mode	N-LOCKING
	7 STATUS 1	Mode-1 status display setting	BATT
	8 AUTO SET	AUTO switch functions setting	NORM
(2/2)	9 QREC MODE	Quick recording special mode on/off	1
	10 BATT END	Battery warning voltage setting	11.0

Custom scene memo file

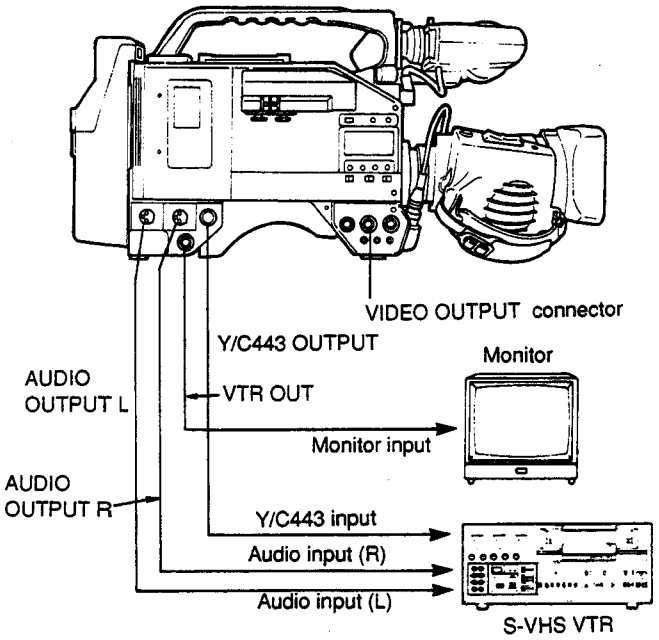
Copy this memo file and use it as a memo of your own scene file.

- Memory card No. ( )
- CUSTOM ( ) • Comment ( )

IRIS (Auto iris setting)			
	1 IRIS LEVEL	Iris level	
	2 APB	APB function on/off	
	3 PEAK/APL BAL	Mixing ratio of peak and average values	
	4 IRIS AREA	Light measuring area	
	5 IRIS SPEED	Response speed	
	6 ALC F LIMIT	Video ALC operation start point	
PROCESS (Video signal setting)			
(1/2)	1 MASTER BLACK	Reference black level	
	2 AUTO KNEE	Auto knee on/off	
	3 KNEE LEVEL	Manual knee level	
	4 ABL	Auto black level control on/off	
	5 ABL LEVEL	ABL control level	
	6 CONTOUR	Contour correction on/off	
	7 CONTOUR LVL	Contour correction level	
(2/2)	8 GAMMA	Gamma correction on/off	
	9 GAMMA LEVEL	Gamma correction level	
OPERATION (Operating modes setting)			
(1/2)	1 GAIN	GAIN switch setting combinations	
	2 AW FIL	Filter-linked auto white balance	
	3 FULL TIME AW	Full-time auto white balance on/off	
	4 AUDIO IND	Audio level indicator on/off	
	5 VOICE ALARM	Audible warning messages on/off	
	6 VTR SW	VTR start/stop trigger mode	
	7 STATUS 1	Mode-1 status display setting	
	8 AUTO SET	AUTO switch functions setting	
(2/2)	9 QREC MODE	Quick recording special mode on/off	
	10 BATT END	Battery warning voltage setting	

USING AS A STUDIO CAMERA

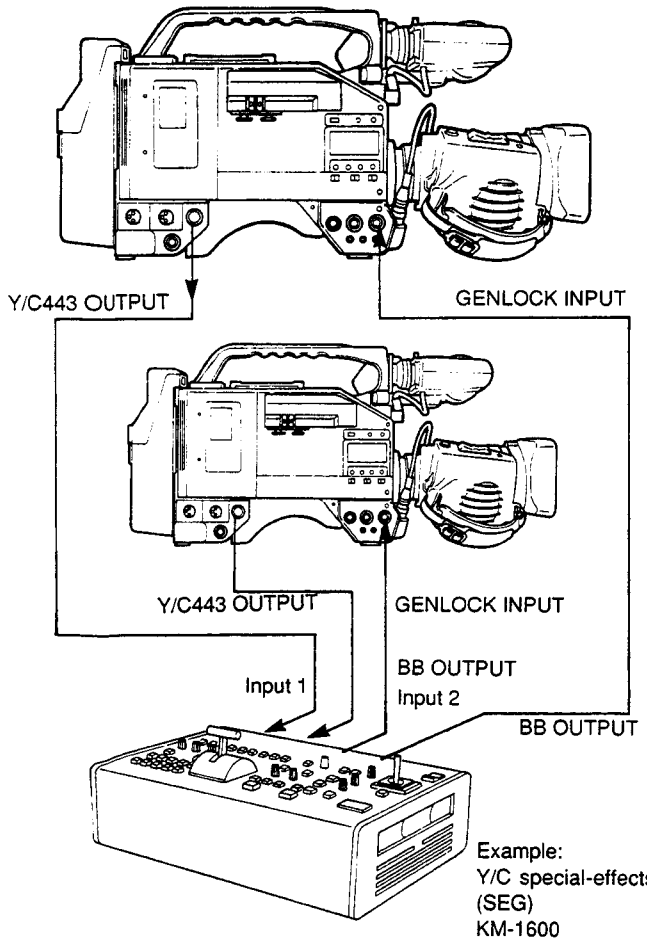
Connection to an external VTR and audio equipment



When recording the signals being shot with this unit onto another VTR, connect as illustrated on the left.

- When using a VHS VTR (not S-VHS), the use of the VIDEO OUT connector is recommended. (GY-X1TC only)
- The VITC time code can be inserted into the signal output from the VIDEO OUT connector. (GY-X1TC only)
- The start/stop trigger signal cannot be delivered to the external VTR.

Genlocking (provided only on the GY-X1 TC)



Example:
Y/C special-effects generator
(SEG)
KM-1600

When multiple camera signals are processed via an SEG for fades, mixes, wipes, etc., all cameras must be synchronized by genlocking. For this purpose, apply a composite video signal (VBS) or black burst (BB) to the camera's GENLOCK INPUT terminal.

- It is not possible to genlock this unit with the VTR playback signal. This could cause a sync failure or hue fluctuations. This is not due to any defect of the unit, but because the VTR playback signal contains timebase errors corresponding to the rotary system's wow and flutter.
  If the VTR playback signal is to be used as a reference signal, correct it using a timebase corrector.

Phase adjustment

The figure shows an example of a camera-SEG system. When two or more cameras are used, the horizontal phase and color phase of their output signals must coincide with each other with respect to the reference signal externally applied to the cameras.
For adjusment, use the following switches and controls on the left side of the camera.

Horizontal sync phase:	H control
Color sync phase:	Coarse switch 0, 120°, 240°
	FINE control ±60°

- For adjustments, consult the dealer from whom you purchased this unit or an authorized JVC Service agent.

TIME CODE RECORDING (GY-X1TC only)

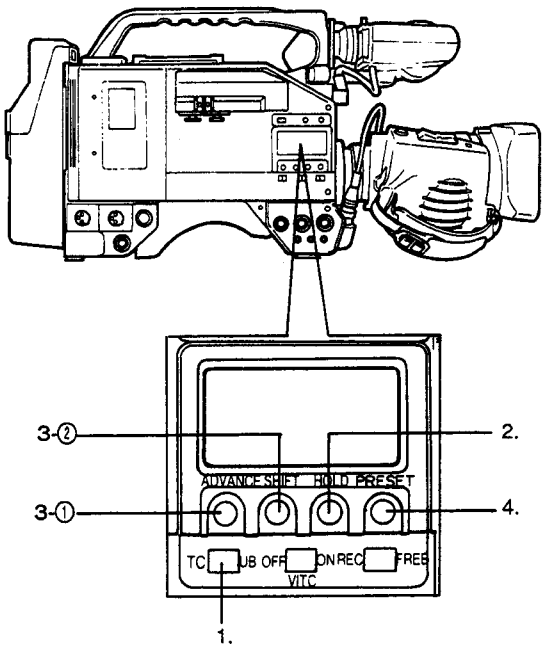
The GY-X1TC is capable of recording time codes together with the video signal. Tapes with time codes are effective for subsequent use in A/B roll editing.

The GY-X1TC employs the VITC system which records time codes in the vertical blanking period. Time codes include time data and user's bits, which are set independently.

The time code specifications of this unit are as follows:
- Insertion period: line 13H or 15H
- Frame mode: Drop frame

To change the insertion period and frame mode, consult an authorized JVC service agent.

Setting the user's bits



Usable characters and display

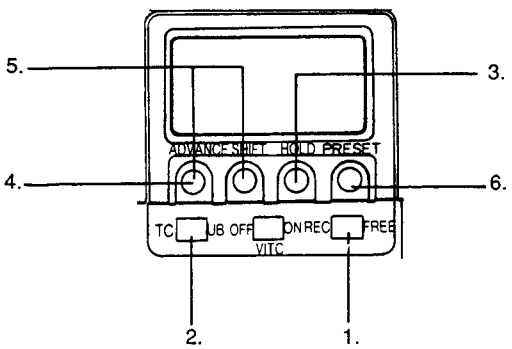
0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

The user's bits are an 8-digit number which is recorded together with time data on the tape, to be used for tape management.
For each digit, numerals 0 through 9 and characters A through F can be used.
- The user's bits need not be set. If not required, proceed to "Time data setting".

1. Set the TC/UB switch to UB.
2. Press the HOLD button.
   The following display will appear with the left-most character blinking.

3. The blinking character can be changed.
   ①Set the character with the ADVANCE button.
   ②Move to the next character with the SHIFT button.
   Repeat steps ① and ② to set all the user's bits.
4. After setting the data, press the PRESET button.

Time data setting



Set the time data to be recorded.

1. Set the REC RUN/FREE RUN switch as required.
   - REC RUN: Time codes count up only while the VTR is recording. Continuous data is available.
   - FREE RUN: Time codes count up when setting is completed (in step 6) and continues counting. Therefore, the time codes recorded on the tape are not continuous. Use this mode when you want to record real-time data on the tape. (Counting stops when the power is switched off. Be careful.)
2. Set the TC/UB switch to TC.
3. Press the HOLD button.
   The 10s hour digit will blink.
4. Set the data with the ADVANCE button.
5. Move to the next digit with the SHIFT button and set the data with the ADVANCE button.

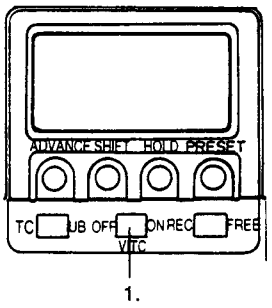
6. After all digits (hour, minute, second, frame) have been set, press the PRESET button.
   - Counting starts immediately if the REC RUN/FREE RUN switch has been set to FREE RUN in step 1.

- To change the setting, repeat steps from 3.
- If you have pressed the HOLD button by accident, press it again to return to the previous status.

Recording time codes

1. Set the VITC switch to ON.

2. - With the REC RUN position selected, counting starts when the VTR starts recording, and stops when it stops recording.
   - With the FREE RUN position selected, counting starts immediately after the time data has been preset. Whenever the VTR is recording, real-time time data is recorded.
     (Counting stops when the power is switched off. Be careful.)

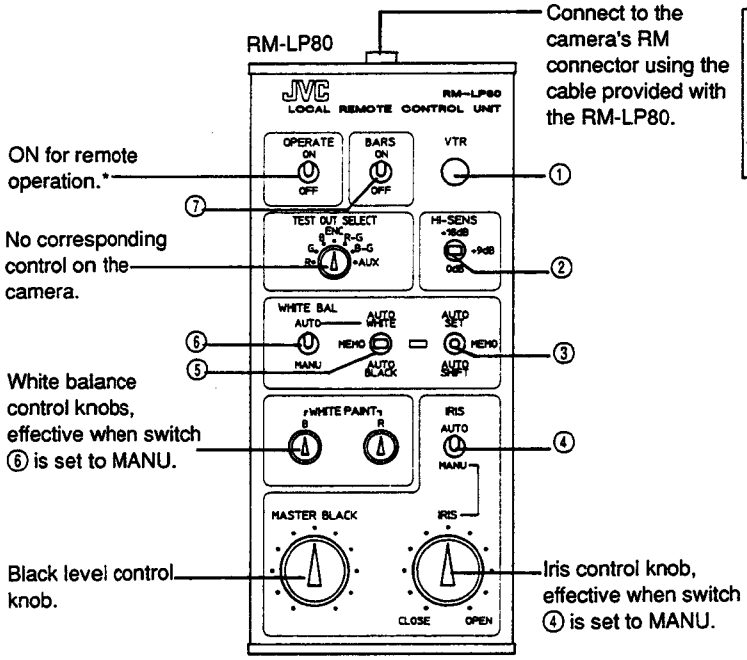


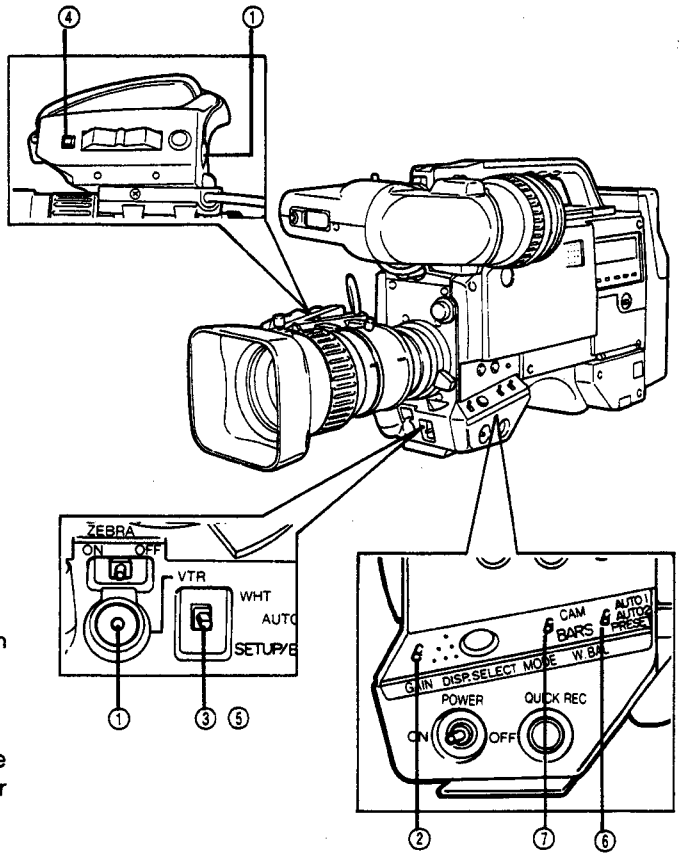
Notes

- Counting stops when the power is switched off. Therefore, when using the FREE RUN mode to record real-time data, the coincidence between the recorded and real-time data will be lost if the power is switched off.
- Missing time data may occur at the end and/or start of recording of different takes in the REC RUN mode. Pay attention to this when using time codes.

REMOTE CONTROL USING THE RM-LP80 (GY-X1TC only)

This unit can be remote-controlled using the optional RM-LP80 Local Remote Control Unit. The controls on the RM-LP80 correspond to the numbered controls of the GY-X1TC as shown below.





* In the "ON" position, switches on the camera corresponding to those on the remote control except ① are not operable. Also, viewfinder indications for settings of these switches are not available.

Corresponding switch positions

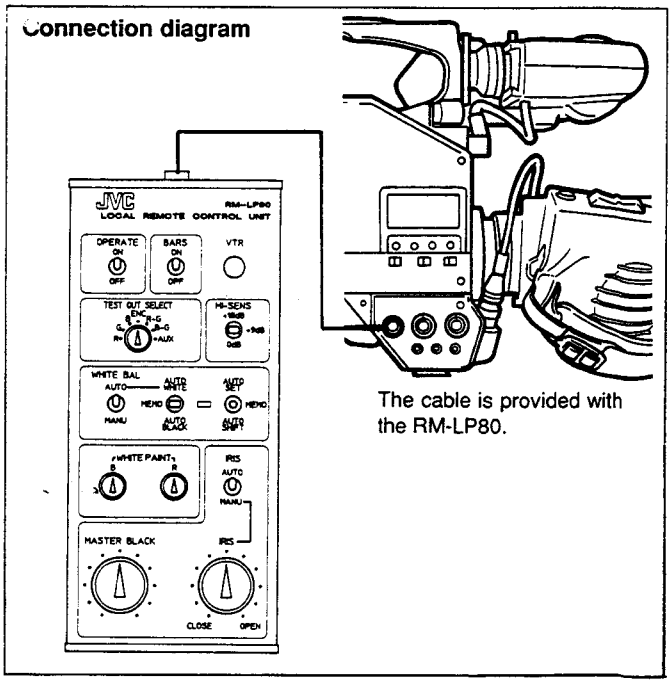
RM-LP80	GY-X1TC	Remarks
0dB 9 dB 18 dB	• •• •••	0 dB, 9 dB, and 18 dB, regardless of the setting by the memory function.
AUTO SET AUTO SHIFT	SETUP/BLK None	Auto setup operation*
AUTO WHITE AUTO BLACK	WHT SETUP/BLK	Auto black operation
AUTO MANU	AUTO1 PRESET	
ON OFF	BARS CAM	

* Auto setup operation: Automatic adjustment of black balance, white balance and black balance in that sequence.

Notes

- Quick-recording start/stop cannot be remote-controlled.
- Refer to the instruction manual of the RM-LP80 for other information.

Connection diagram



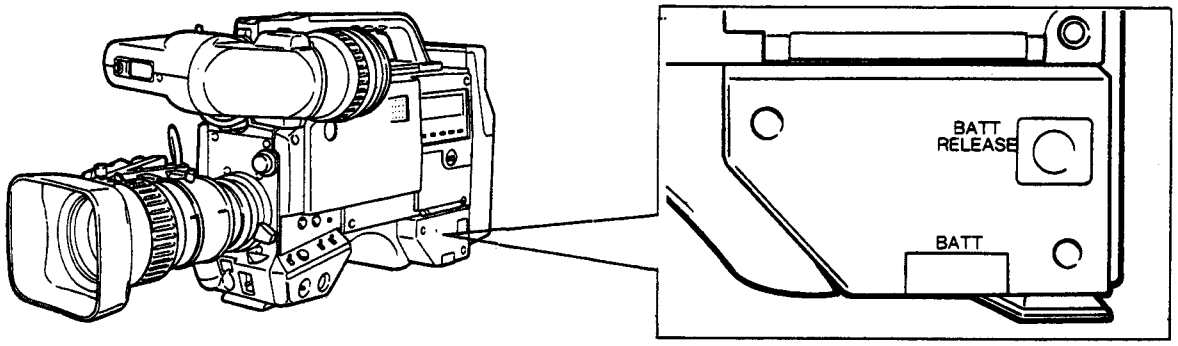
The cable is provided with the RM-LP80.

REPLACING THE CLOCK BACKUP BATTERY

The clock backup battery is used to retain the built-in clock and hour meter data even while the power is off.

When the clock backup battery is exhausted, the time and hour meter data are lost when the power is switched off, and are initialized when the power is switched on again. To avoid this, it is recommended that you replace the battery once a year.

Replacing procedure
Be sure to replace the battery while the power is on, otherwise the data will be lost.



1. Pull out the clock battery compartment cover. The battery will come out with the cover.
2. Install a battery with the correct polarity. The "+" terminal should be up.

Usable batteries
JVC's CR-2025
or a lithium battery for a clock (DC 3 V), equivalent to the CR-2025.

SPECIFICATIONS

• CAMERA SECTION

Image pickup device	:	1/2-inch interline CCDs
Colour separation optical system	:	3-colour separation prism
Number of effective pixels	:	390,000 pixels
Colour system	:	PAL (R-Y, B-Y encoder)
Sync system	:	Internal sync/External sync (GY-X1TC only)
Lens mount	:	Bayonet system (compatible with lenses for 1/2" CCD cameras)
Optical filter	:	3200K, 5600K, 5600K + ND
Sensitivity	:	F1.4, 20 lux (+ 18 dB)
Gain	:	0, +6, +9, +12, +18 dB ALC (Selectable in advance memory system)
S/N ratio	:	56 dB (typical)
Horizontal resolution	:	600 lines (luminance signal)
Registration	:	0.05% or less (excluding lens distortion)
Contour correction:		Horizontal dual-edged, vertical dual-edged
Shutter speeds	:	1/120, 1/250, 1/500, 1/1000

• VTR SECTION

Format	:	S-VHS standard
Tape speed	:	23.39 mm/sec.
Record/playback time	:	30 min. (with SE-C30 cassette)
Fast forward/rewinding time	:	4 min or less
Cassette tape	:	S-VHS C
Number of audio tracks	:	3 (HiFi: 2, normal: 1)
Horizontal resolution	:	Colour 400 lines (in S-VHS mode)
Video S/N ratio	:	**S-VHS ... 44 dB** VHS ...42 dB
Audio S/N ratio	:	40 dB or more (NORMAL) 50 dB (HiFi)
Time code	:	VITC 13H, 15H Drop frame

• INPUT/OUTPUT SIGNALS

Video signal output	:	1 V BNC
Audio signal output	:	–6 dB (low impedance, unbalanced), XLR, RL
Lens	:	12-pin connector
Y/C signal	:	7-pin connector
DC input	:	12 V, XLR 4-pin connector
Genlock input	:	1 V, BNC
Camera output	:	1 V, BNC
Remote connector	:	For connection of optional RM-LP80
External microphone input	:	XLR 3-pin × 2 or 6-pin connector, 600Ω Balanced

• GENERAL

Power consumption	:	25 W or less (including the lens and viewfinder)
Weight	:	apx. 12 lbs (5.5 kg) (including lens, viewfinder)
Operating temperature range	:	0°C — 40°C

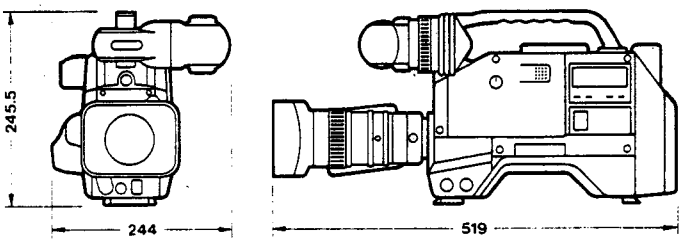
• 14X ZOOM LENS HZ-714

Focal length	:	7 to 98 mm
Max. aperture ratio	:	1:1.4 (f=7 to 81 mm) –1.7
Zoom ratio	:	14:1
Minimum object distance	:	1 m (3 feet)
Macro distance	:	30 mm
Mount	:	1/2-inch bayonet (FB 35.74 mm in air)
Front thread diameter	:	72 mm, P=0.75
Iris operation	:	Motor drive/manual
Zoom operation	:	DC servo drive/manual
Focusing	:	Manual (mechanical internal focus)

• 1.5-inch VIEWFINDER VF-P115

CRT	:	1.5 inch
Resolution	:	500 lines or more
Input signal	:	Composite 1 Vp-p, high impedance
Available functions	:	Top tally lamp (with ON/OFF switch) Low battery indicator (RED) Recording indicator/tape travel alarm (GREEN) Contrast control Brightness control
Diopter control	:	provided
Power requirements	:	12 V DC, 3 W

• Dimensions (unit: mm)



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